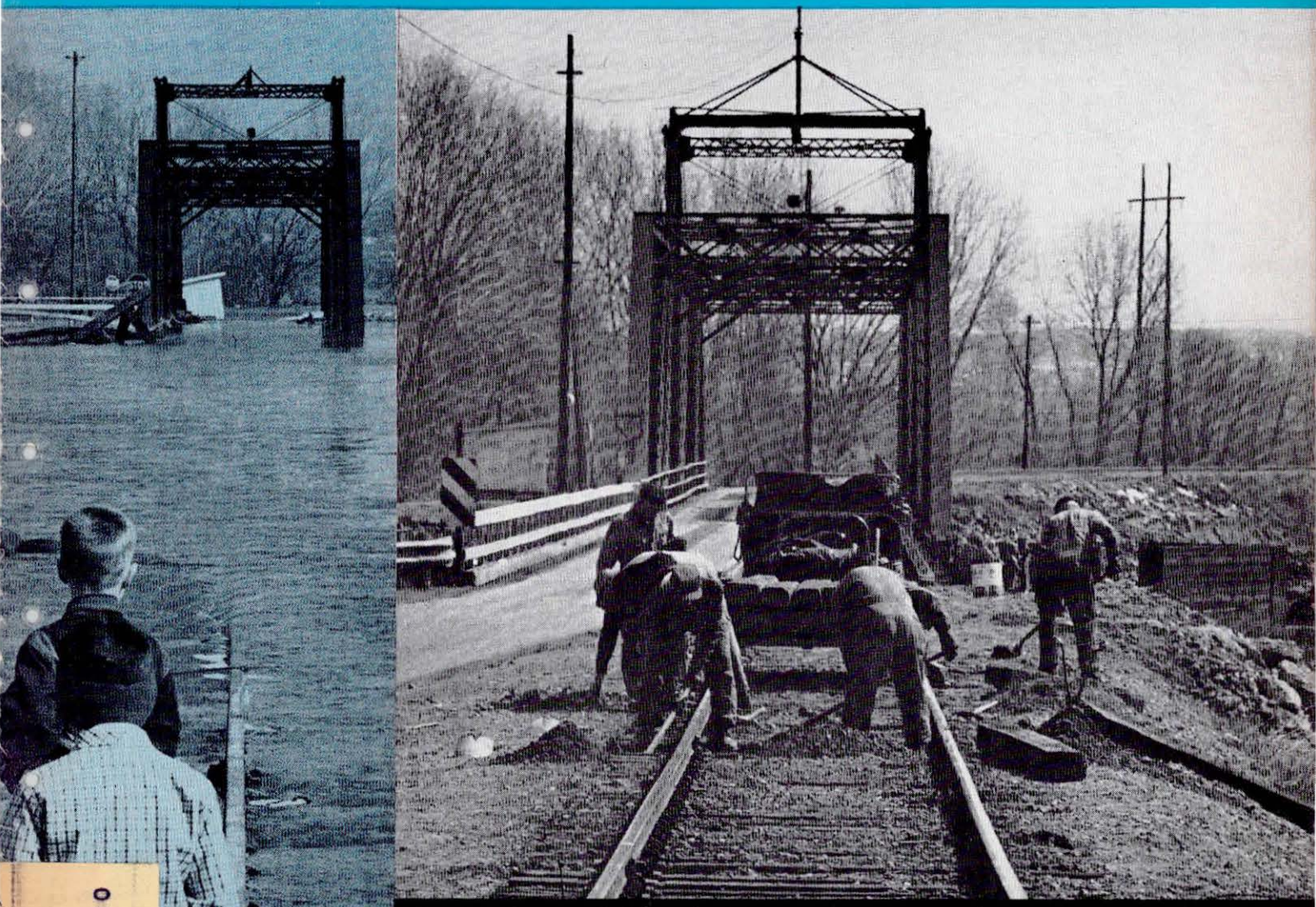
APR 14 McCARTNEY LIBRARY
GENEVA COLLEGE

ENGINEERING A RE-MATCH WITH OLD MAN RIVER

April 14, 1969

RAILWAY AGE

THE TRANSPORTATION WEEKLY



pril 16, 1965 April 3, 1969

RAILROADS BRACE AS MISSISSIPPI RISES

D70 1106
McCARTNEY LIBRARY
GENEVA COLLEGE
BEAVER FALLS PENN 15010

Removes or inserts 22-foot ties in just 60 seconds!

(And two men do the work of six!)

Time and labor costs go down. Efficiency goes up — with the Tamper Tie Renewer. Two men can remove or insert 22-foot ties in just 60 seconds; standard-length ties in under 30 seconds. And no special skill or training is needed. The Tamper Tie Renewer won't disturb the track line or surface. It can be quickly off-tracked, won't damage ties — uses no hooks or wires. And eliminates the need to dig out tie ends.

Lightweight, all-hydraulic, the Tamper Tie Renewer is ideal for small railroads, branch lines and industrial rail systems. For miscellaneous tie renewals between main renewal programs. For yardwork. And it's a switch-tie specialist.

Dollar-for-dollar, you cannot get more value, greater efficiency or lower operating costs. The Tamper Tie Renewer, used by over 70 railroads. 300 units proven on the job.

Write today for complete details and fully illustrated brochure.

Tamper INC.

Head Office & Plant — 2401 Edmund Rd., West Columbia, S.C. 29169 • 803/794-9160

Plant — 160 St. Joseph Blvd., Lachine (Montreal), Que., Canada • 514/637-5531

Parts Depot — 1902 University Ave., St. Paul, Minn. 55115 • 612/645-5055

Sales, Service & Parts — Tamper (Australia) Pty. Ltd., 34 McIntosh St., Airport West, G.P.O. Melbourne, Victoria 3042, Australia • 379-8441

Circle 1 on coupon page 36

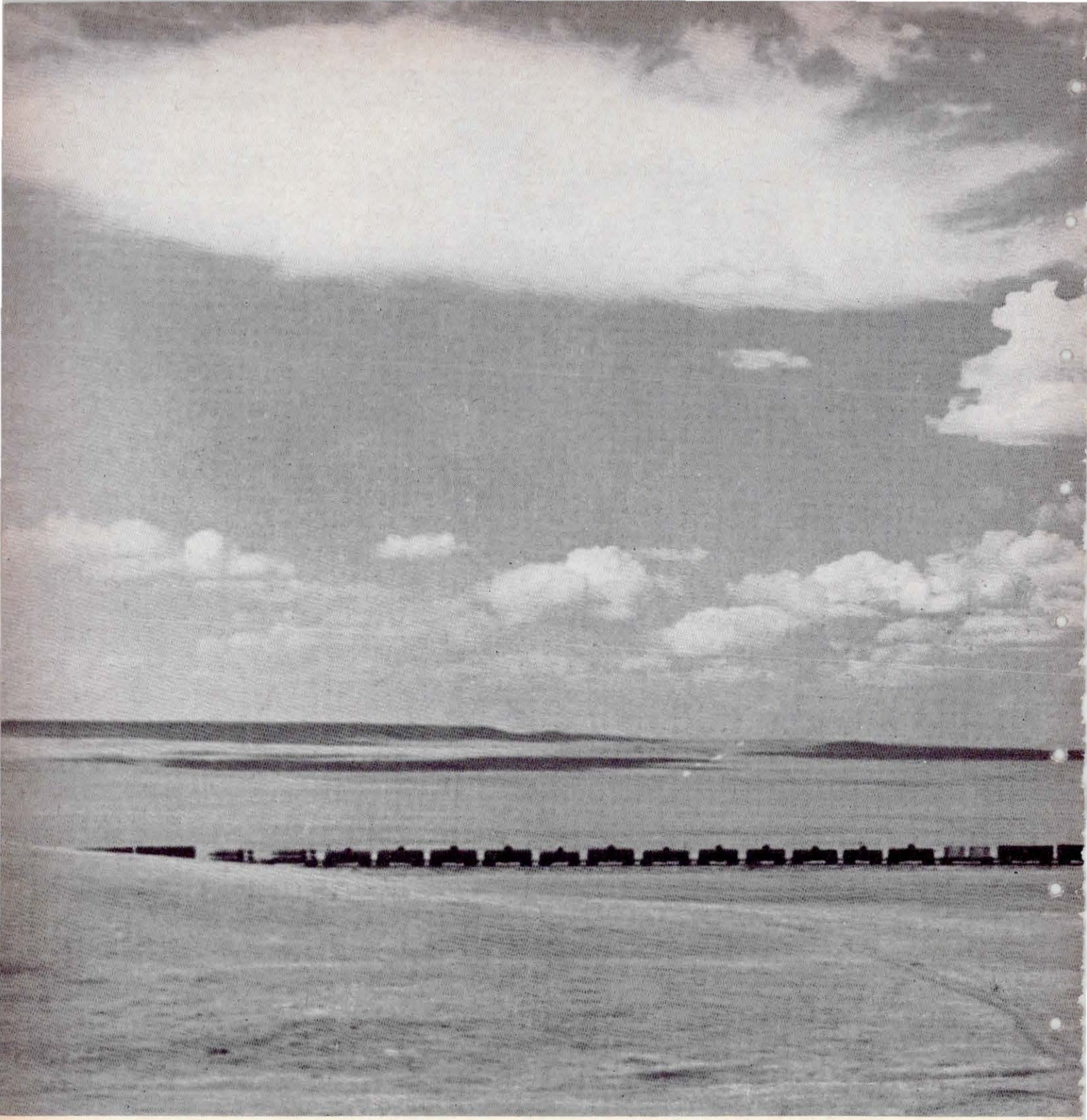
Fully heat-treated rails

can substantially extend track life. Our records show rail life has been tripled and quadrupled on some leading railroads; other roads report as much as six and eight times longer rail life.

Some railroads have standardized on Bethlehem fully heat-treated rails in all mainline curves above a certain degree of curvature. Heat-treated rails usually return their original cost promptly, and hand you welcome savings in labor costs, too.

We have some impressive case history information on file regarding our fully-treated rails, and we believe you would find it well worth a few minutes of your time. We're ready whenever you are. Bethlehem Steel Corporation, Bethlehem, Pa. 18016.

BETHLEHEM STEEL



Ugh! Wagon trains getting heap

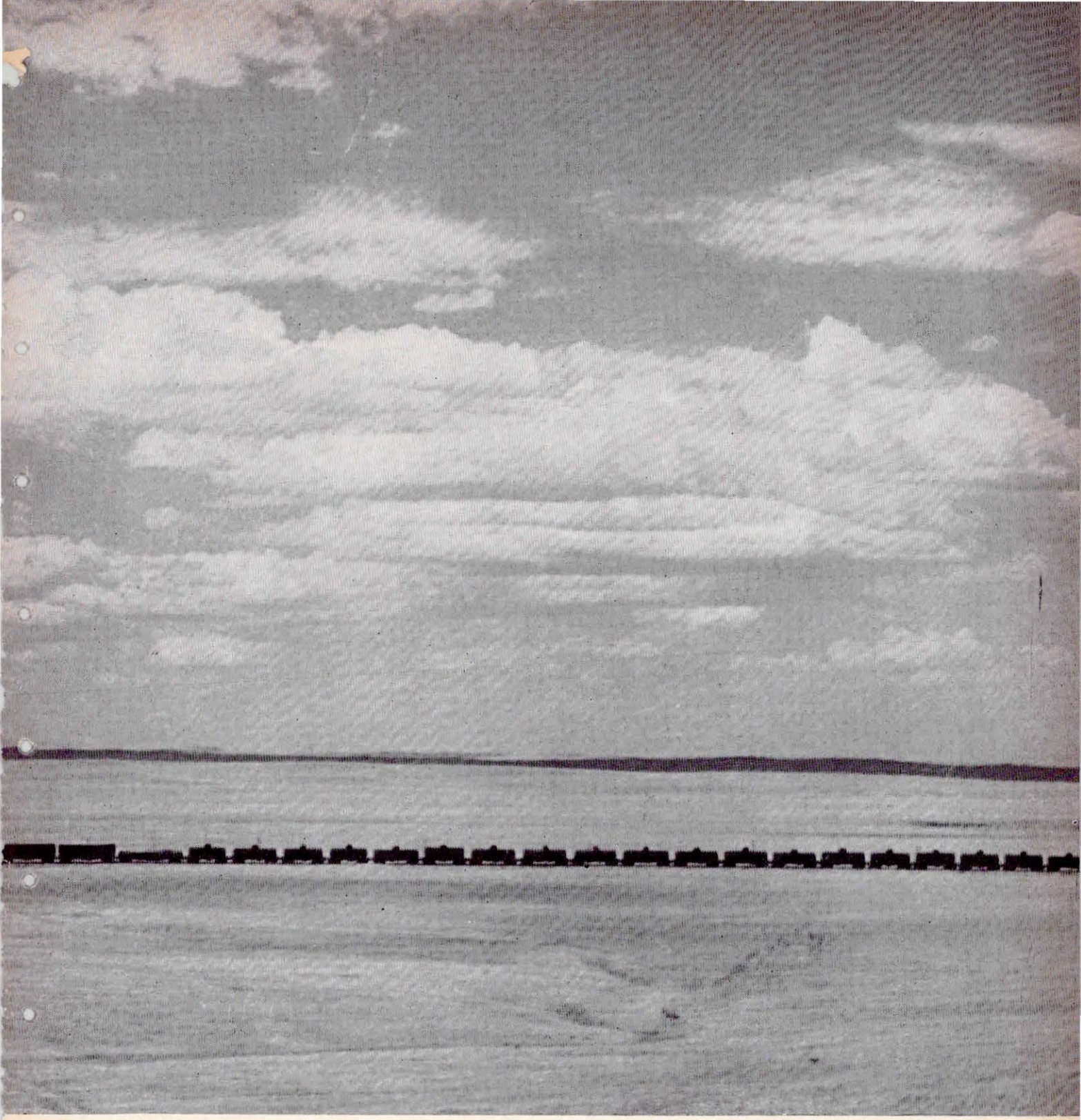
In Indian country—as everywhere—the Iron Horse is bigger than ever, stronger than ever, faster than ever.

And it's still pioneering. It's pulling giant unit trains that shuttle between grain country and port, between mine and mill, between factory and market . . . shiploads that go where no ship can travel.

It's turning around faster, thanks to new loading and unloading devices. (And shippers are getting better service, lower costs!)

It's riding more and more on welded rail—maintained with ever more ingenious track machines.

It's pulling cars that are ever more varied in size, in shape, in cushioning, in function. They carry the red hot, the frozen, the fluid, the powdered, the rigid, the



bigger!

fragile, the too huge and heavy to travel any other way.

Increasingly, the immortal Iron Horse is obedient to a whole new structure of human and superhuman brainpower—with automatic sensing devices, new signaling and communications, new computerization—all bringing new speed, new accuracy, new efficiency.

New, new, new—that's the way it is in today's new railway age. How do railroaders keep up with all this progress? Through the pages of weekly RAILWAY AGE. What a place to tell people what's new with *you!*

Be part of the weekly excitement in **RAILWAY AGE** *the transportation weekly*

RAILWAY AGE

April 14, 1969 • Vol. 166, No. 13

THIS WEEK

13 Railroads match wits with Old Man River
They're bracing themselves to cope with record floods.

24 Ike's last train journey
Smooth railroad teamwork drew praise from the Eisenhower family.

26 Turboliner diary
An account of the train's Boston-New York premiere run.

38 Viewpoint—The basic role of transmitting ideas
Meaningful communication is vital for today's railroads.

DEPARTMENTS

31	Freight Carloadings	31	Railway Market
12	Lines on Labor	7	Short and Significant
8	Monday Morning Report	38	Viewpoint
31	New Equipment	30	Watching Washington
36	New Products Report	11	Week at a Glance
35	People in the News	34	You Ought to Know

. . . AND COMING NEXT WEEK

Tomorrow's Railroads: The fixed plant. This fourth section of a 12-part Golden Spike Centennial Year series explores the problems and the future of railroad fixed plant improvement and change. As one civil engineer, quoted in next week's article, says: "Pressures are building up, almost irresistibly, to the point where important changes in track structure will have to be made." Also: An exclusive interview with Secretary of Transportation John A. Volpe, who talks about the future of railroads in terms of both passenger and freight-hauling capability.

Editorial and Executive Offices
New York, N.Y. 10007, 30 Church St.

ROBERT G. LEWIS: Publisher
LUTHER S. MILLER: Editor
FRED C. MILES: Executive Editor

Transit Editor: Joseph Asher
Mechanical: Fred N. Houser
Associate Editor: Philip Harrison
Car & Locomotive Cyclopedia:
Charles L. Combes
Art Director: Maurice H. Mates
Art Editor: Marvin Friedman
Editorial Assistant: June Meyer
Market Research: Robert N. Paltos
Librarian: Edith C. Stone
Production Manager: Fred B. Hecht
Manager—Contract Department:
Constance Nicolai

Editorial and Executive Offices
Chicago, Ill. 60604, 14 E. Jackson Blvd.

C. JAMES FISHER: Vice President—Sales
GUS WELTY: Senior Editor
Mechanical: Robert D. Bartley
Engineering:
Merwin H. Dick R. E. Dove
Signaling & Communications:
Robert W. McKnight
Editorial Assistant: Wanda Brown

Washington, D.C. 20004,
National Press Bldg.
Washington Editor: Frank Malone

London, W.C. 2, England, 4, Talbot House; 98 St. Martin's Lane
International Editors:
John Levett

Contributing Editors:
Norman E. Gillespie
3205 Chelsea
Orlando, Florida 32803

Charles Layng
6019 Nashua Ave.
Orlando, Florida 32809

E. L. Woodward
876 Chattanooga Ave.
Pacific Palisades, Calif. 90272

GEORGE DUSENBURY: Editorial Director

FOR LIST OF SALES OFFICES SEE ADVERTISING INDEX PAGE

Member of ABC RPI

Railway Age, established in 1856, is indexed by the Business Periodicals Index, the Engineering Index Service and the Public Affairs Information Service. Name registered in U.S. Patent Office and Trade Mark Office in Canada.
Published weekly (except for four issues combining two-in-one) by the Simmons-Boardman Publishing Corporation, 508 Birch St., Bristol, Conn. 06010.
Railroad employees' subscription rate, U.S. possessions, Canada and Mexico, $6 one year, $9 two years, all others $15 for one year, payable in advance and postage paid. To railroad employees elsewhere in the western hemisphere, $10 a year. Single copies 60¢ except special issues.
Address all subscriptions, change of address and correspondence concerning them to Subscription Dept., Railway Age, P.O. Box 961, Bristol, Conn. 06010.
Change of address should reach us three weeks in advance of next issue date. Send old address with new enclosing, if possible, your address label. Post Office will not forward copies unless you provide extra postage.

Circulation Dept.: John Rogers Director of Circulation, 30 Church St., New York, N.Y. 10007. POSTMASTER—SEND FORM 3579 TO P.O. Box 961, BRISTOL, CONN. 06010.
Printed at the Hughes Printing Co., 34 North Crystal St., East Stroudsburg, Pa. 18301. Second-class postage paid at Bristol, Conn., and at additional mailing offices.

SHORT AND SIGNIFICANT

IC setting bargain fares in "mini-corridor"

Illinois Central is putting a mini-pricetag on its "mini-corridor" passenger service between Chicago and Carbondale, Ill. Round-trip excursion fares from seven communities on the line will provide savings of up to 33%. IC labels the move an experiment. It's scheduled to run until May 25, and in the meantime the road will be running a questionnaire survey of the passengers who take advantage of the lower fares. There is one principal exception to the plan: Bargain trips cannot originate at Chicago. Says Henry F. Davenport, IC's vice president-passenger services: The experiment "is an attempt to get people out of their autos and back onto trains. We hope to encourage increased travel to Chicago from downstate."

N&W locates freight cars with SCOOP

Norfolk & Western has installed a new car location system called SCOOP (System for Computer Oriented Operations). The system records car initials and numbers, location and type of last movement, whether loaded or empty, the date and time, and other information. To learn the location of a specific car, a shipper merely dials the central computer in Roanoke, Va. on a Telex machine and the answer is flashed back in seconds. Telex machines have been installed at 60 yards throughout the N&W system to funnel car-location information into the central computer. Fifteen inquiry devices now serve major transportation and traffic offices. Telex units are also in service in 55 N&W traffic offices throughout the U.S. and Canada, with additional locations being planned. N&W now receives approximately 6,500 inquiries daily, with an additional 1,000 inquiries expected when shippers begin using the service.

Missouri transit commission is proposed

A bill that would create a Commission on Mass Transportation and Rapid Transit has been proposed in the House of Representatives of the State of Missouri. Among the proposed duties of the commission would be to study existing laws applicable to rapid transit and mass transportation and to advise on the need for new legislation. It would also appraise the entire state's transportation facilities and make appropriate recommendations for new facilities and systems or improvements in existing ones. The commission would be composed of five members from the House, five from the Senate, and five from the community at large.

East-West TOFC traffic doubles on CN

Traffic hauled on Canadian National's express piggyback trains from Toronto and Montreal to western Canada has more than doubled since the introduction of high-speed, 80-hour service to Vancouver in May 1968. Total CN loadings for the west via express piggyback were 5,869 in 1968, an increase of 113% over 1967. The railway expects an over-all 30% increase for this year over 1968.

PC speeds up New England freight service

Penn Central has scheduled eight new high-speed freight trains in an effort to improve rail service to and from points in New England. Use of the electronic classification yard at Selkirk, N.Y., along with the advantage of single-line operation resulting from the New Haven inclusion, made it possible to save a day or more in many shipments between New England and Penn Central's Western and Southern gateways, said railroad spokesmen.

L&D claims of truckers still rising

American Trucking Associations has reported that L&D claims have continued to rise. Ninety-four motor common carriers, who represent more than 35% of the $6.2 billion total revenue of all general commodities carriers, reported direct claim payments amounted to $32,357,146, 1.48% of their total gross revenue. The 1967 national claim ratio was 1.47%.

MONDAY MORNING REPORT

FEC PROSPERS AS IT PERSEVERES

As the strike of non-ops against Florida East Coast enters the second quarter of the seventh year, H. E. Hales, vice president-maintenance, says: "In six years, we've made 30 years of progress. The strike produced the necessity for re-appraisal of everything we were doing." He talks about the 50 miles of welded rail and concrete ties to be added this year to nearly 50 already installed. He talks about the six Hi-Rail pickup trucks cruising the entire 571-mile railroad weekly, yards and industry included, to repair or report track defects. These are two of the innovations behind a superbly mechanized railroad that refuses to bend.

LABOR CONDITIONS MUST BE TAILORED

FEC adheres to the principle enunciated by its leading negotiator, Raymond W. Wycoff, vice president-personnel: "It is the position of the FEC that agreements covering wages and work rules must be arrived at on the basis of conditions existing on this property, not on the basis of agreements negotiated on other railroads." FEC refuses to become a party to national negotiations because FEC simply can't deal with labor like the big roads deal, Wycoff contends. He has held that position through 409 reported acts of vandalism from egg-throwing to train derailments, and shrinkage of FEC ranks from 2,100 to about 900.

TAILORING MEANS BONUS FOR ALL

For those who replaced the operating employees who joined the strike for national-basis treatment, there have been pay increases, abolition of district work-limits, advancement potential from cross-craft seniority, and free health-life insurance. Also, FEC wants to implement two more pay raises and three vacation weeks after 10, instead of 15, years of service. But two of three operating unions say no, and a federal mediator is now at work. For the non-operating personnel, liberal conditions were squelched a year ago by a federal court in Jacksonville, after unions charged that a 1964 injunction on changes without their agreement would be violated. The current non-op tactic is damages—including amendment to a suit in federal court against FEC for contracting outside help.

FEC EARNS, BUT SPENDS FOR UPGRADING

The railroad reports $25.7 million in 1968 gross operating revenue, compared with $29.5 million in the pre-strike year 1962. So recovery still is distant. But an equally important 1968 figure shows FEC determination to make it—ratio to revenue for maintenance of way costs of 33.2%, compared with 13% for the industry generally. That accounts for a slight operating deficit in 1968 of $307,883, but property income lifted FEC to an over-all net of $90,420, compared with $72,154 in 1967.

the Griffin is a big wheeler

Griffin has the capacity to turn out nearly 6000 car sets of axle assemblies each year. We offer this service to railroads and car builders who do not have this capability at their own facility.

Mounted wheels can be delivered direct to your production line as needed. This will eliminate expensive intermediate storage and double handling.

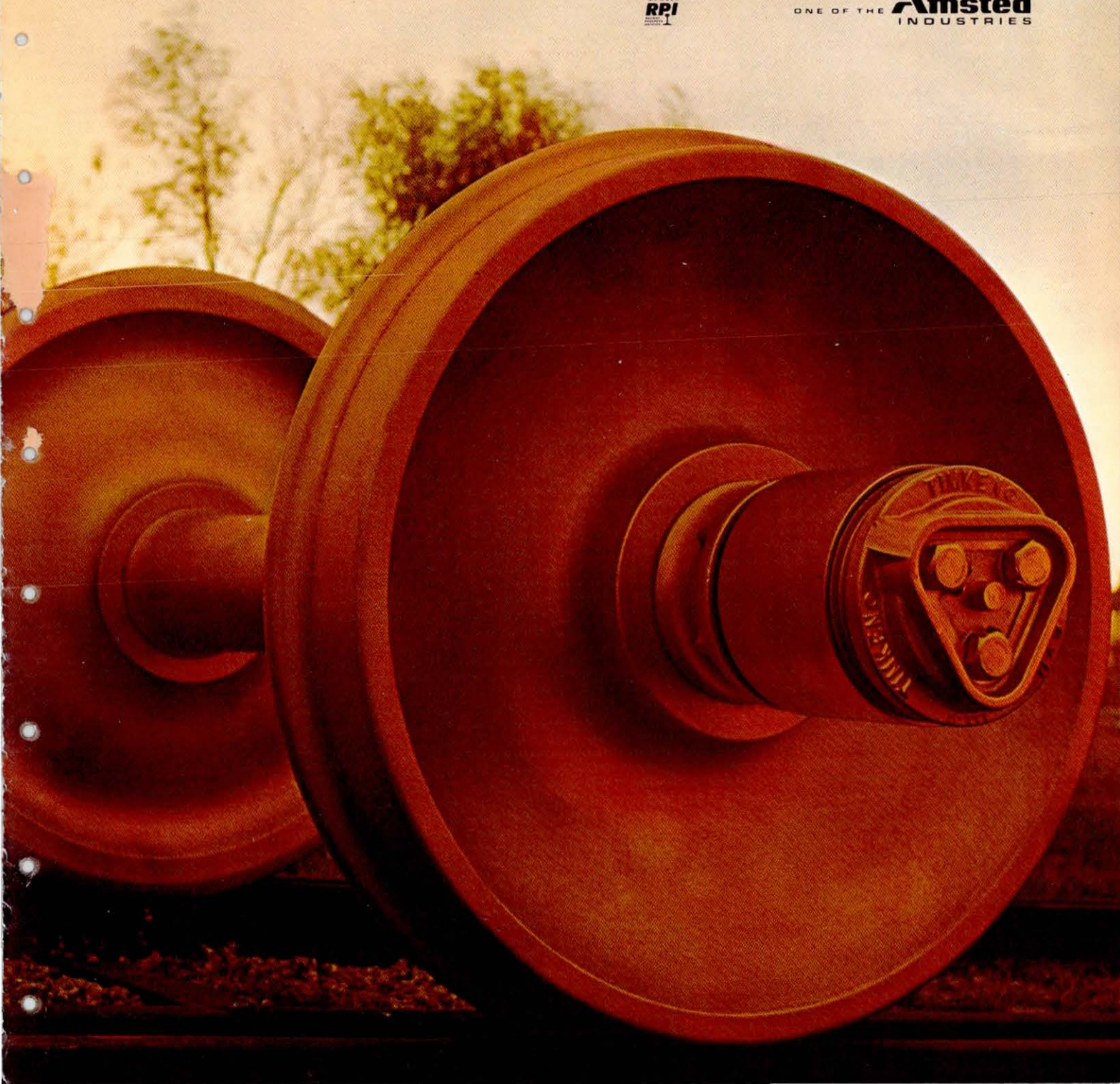
For more than 90 years Griffin has been giving railroad men the best in wheels. We expect to keep on rolling.

GRIFFIN WHEEL COMPANY

445 N. SACRAMENTO BOULEVARD • CHICAGO, ILLINOIS 60612

MEMBER RPI

ONE OF THE Amsted INDUSTRIES



rail joints have it tougher all the time...

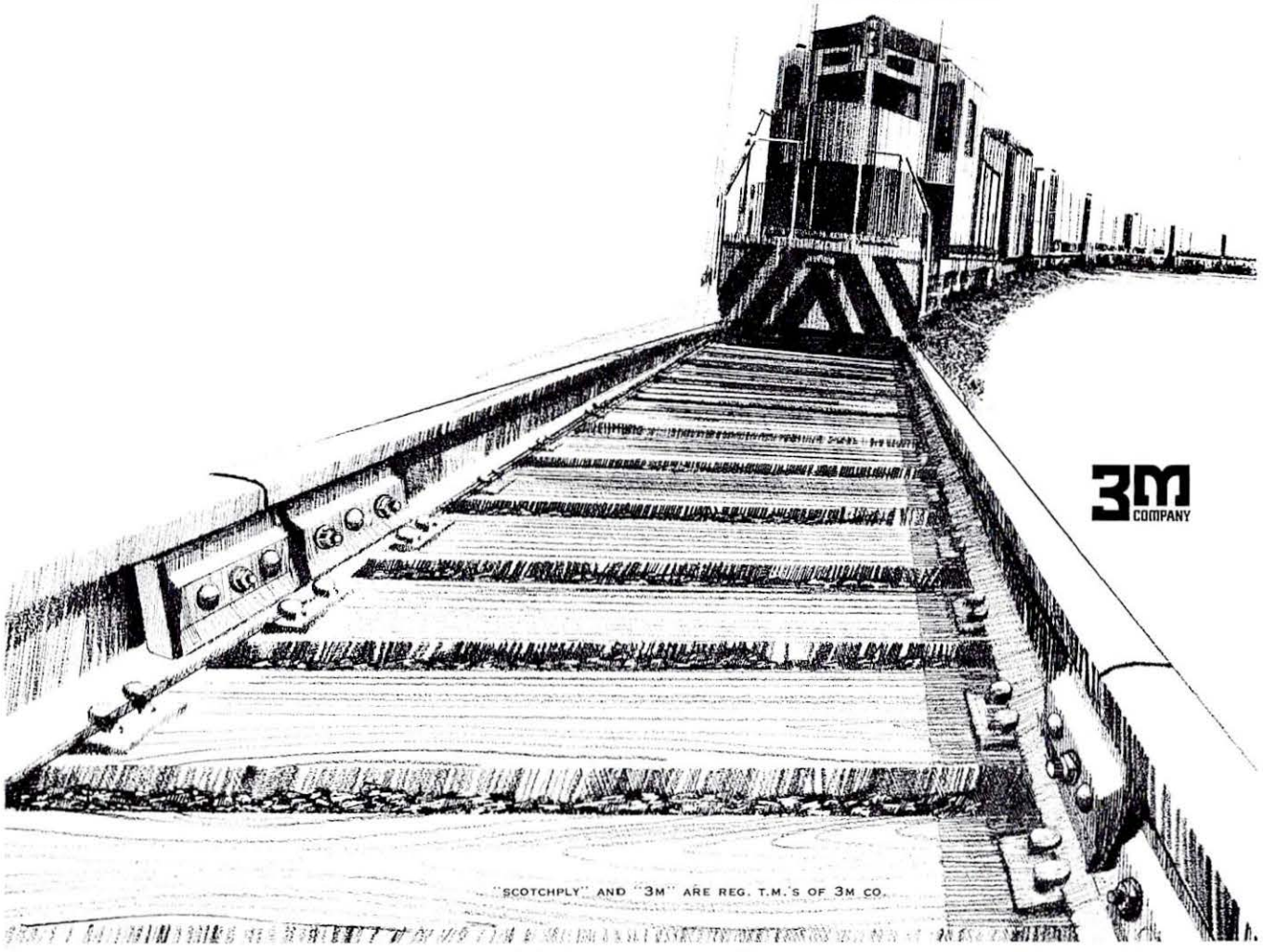
More traffic. Increased loads. Rails are taking a heavier pounding than ever before. And insulated rail joints designed for 1920 service aren't satisfying 1969 track requirements! That's why many knowledgeable railroad men have switched to 3M insulated rail joints made from space age "Scotchply" epoxy fiberglass.

Says the Chief Engineer of one western line: "Wherever we change joint insulation more than once a year, we've saved by switching to 3M Insulated Rail Joints." Other roads that have changed 100% to 3M joints, cite dependable performance and overall cost savings as their reasons.

These examples are typical. And over 60 roads can't be wrong. For full details write: Reinforced Plastics, 3M Company, 3M Center, St. Paul, MN 55101, Dept. ISK-49.

that's why major roads have switched to 3M BRAND insulated rail joints!

covered by U. S. Patent



Circle 4 on coupon page 36

RAILWAY AGE
THE TRANSPORTATION WEEKLY
April 14, 1969

WEEK AT A GLANCE

Labor-management: A strike, a threat and a settlement

With contributions from the UTU and the BRS, last week was a week to be remembered by railroad management—but not fondly. Late on Tuesday, April 8, the United Transportation Union—suddenly and without warning—struck Illinois Central over the crew-consist issue. Earlier that same day, the Brotherhood of Railroad Signalmen called a nationwide strike for 6 a.m., local time, April 14. And filtering through the industry was the word of settlement—hardly on terms gratifying to management—of the UTU consist dispute with Belt Railway of Chicago which led to a lengthy strike last year (see Lines on Labor, p. 12). In the case of IC, the walkout was totally unexpected—especially since IC-UTU negotiations were in progress and there was no hint of a breakoff by the union when management and labor representatives parted late on the afternoon of April 8. The strike began that evening, talks resumed the next morning, and IC then went to federal court in Nashville for a temporary restraining order when talks failed to produce a back-to-work move. The BRS strike call—over a wage dispute—was less unexpected, though there was some surprise at its national-in-scope nature. Barring an eleventh-hour settlement, the 13,000-member BRS seemed on the verge of handing the Nixon Administration its first transportation labor crisis—in the first nation-wide railroad walkout since 1967, when similar action by the shopcraft unions precipitated Congressional action and the imposition of arbitration. In both the IC-UTU dispute and the BRS wage case, procedures of the Railway Labor Act had been exhausted.

Injunction issued in Burlington case

A federal court in Washington has issued a preliminary injunction against six shopcraft unions who threatened to strike the Burlington over alleged abuses in contracting out work in accordance with the 1964 agreement covering sub-contracting. However, Judge Aubrey E. Robinson, Jr., rejected Burlington's argument that such contracting is not subject to collective bargaining, but stated that the unions must negotiate with all 147 carriers who signed the pact, not just with Burlington. On March 25, the unions demanded amendment to the 1964 agreement to require special agreement between their general chairmen and the Burlington before work could be contracted out, and further asked for agreement on unit exchange, new equipment purchased and manufacture of component parts. Burlington countered by saying that such agreements would give the unions veto power over essential decisions.

For Metroliners: Computerized reservations

Penn Central is installing an advanced computer system to expedite ticketing and reservations on its Metroliners operating between New York and Washington. The new system, to be ready by mid-summer, is the result of almost two years of research and development.

Electric console printers will be located at ticket windows in New York, Newark, Trenton, Philadelphia, Wilmington, Baltimore and Washington. These printers will be tied into the central computer. If space is available on the train desired, the computer selects a seat, instantaneously removes it from inventory, and simultaneously prints the ticket, all within 20 seconds. Accommodations, which will be available a month in advance, become immediately available for resale if they are later cancelled.

As an added dividend, the equipment will automatically do the ticket clerk's bookkeeping, keeping accurate account of all transactions. The equipment was designed by Ticket Reservation Systems, Inc., of New York.

GUS WELTY

LINES ON LABOR

WHAT'S IT ALL ABOUT, MAN? What's it all about? Late last year, the Belt Railway of Chicago took a strike. For more than 100 days, the Belt took that strike. The issue was crew consist. The Brotherhood of Railroad Trainmen called the walkout and executed it. At the end of 100-plus days, the Belt showed no sign of caving in. It held. So, of course, did the BRT. During those 100 days, Belt tried mightily to get an emergency board. But success came only after the union enlarged the scope of action and struck Louisville & Nashville. An emergency board was convened. It heard a good case from Belt, L&N and Illinois Central (which had also been under strike threat). The board made its report—a non-report, some said. Negotiations followed. Then L&N made its peace. And on Good Friday Belt made its peace.

DURING THE STRIKE AND SINCE, the union wanted nothing less than the so-called Jacksonville Agreement—operation of half of a railroad's crews with a conductor and two brakemen, and negotiation covering other 1-and-1 crews with a view toward restoring them to 1-and-2 status. Under the Jax Agreement on other roads, the BRT scored heavily. It had won 50%, going in. Later, it won much more.

BUT THE BELT HELD OUT. It had taken 100-plus days of strike. It mattered not—or it seemed to matter not—that most of Belt's owner-lines had made an accommodation with the BRT. What mattered—or what seemed to matter—was a principle. In the end, it might be said that Belt found Disraeli twice quotable. In the beginning, it was this: "Principle is ever my motto, not expediency." In the end, however, it was this: "A precedent embalms a principle."

THE EMERGENCY BOARD that heard the Belt-L&N-IC case was not a venturesome board. It had before it the *fact* of short-crew operation, not just the theory. But it was unwilling to take a stand—either way—on this kind of material. It seemed preoccupied with another fact—that most railroads had given in to the BRT demands. It seemed not to understand why Belt and a few others held out. It advised the parties to go back and talk some more.

THE TALKING ENDED on Good Friday. Belt, which operates with between 65 and 85 crews (depending upon the Great Lakes shipping season) may now operate a maximum of eight crews 1-and-1 year-around and a maximum of 14 crews 1-and-1 while the lakes are open to navigation. For Belt, and for these observations, it's back to the beginning: What's it all about? What, in the name of reason, is it all about?

PC reports ups and downs of first year

For eight of the eleven months on which Penn Central reports as its first merger year, the average daily car shortage was higher than the combined average of the unmerged partners a year before. Thus, PC says there no per diem saving for 1968.

There were savings in other areas, reports the railroad, but not enough to offset "start-up" expenses of $75 million incurred because the railroad "elected to endure high initial costs as the price of accelerated change . . "

Much of the first-year loss, however, is non-recurring, and "we believe that the worst of our difficulties are behind us and that the action taken should insure completion of consolidation in a much shorter time than originally projected," Penn Central adds.

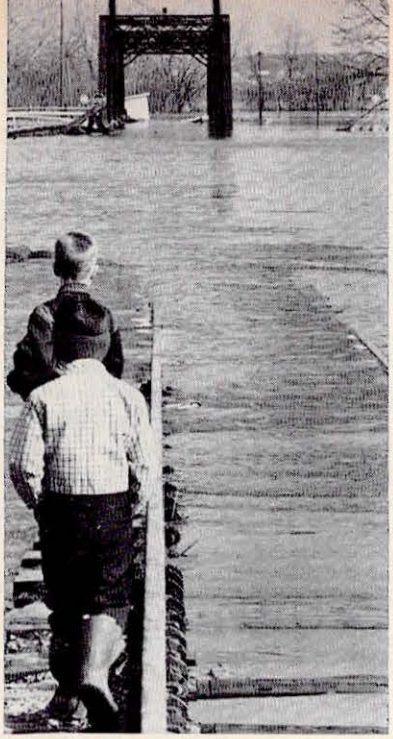
The two biggest problems, PC says, were the incompatibility of computer and electronic data processing systems, and confusion in billing and routing cars over newly combined lines.

Except for the car shortages, though, service generally improved as 22 duplicate freight routes were eliminated and train frequency raised on 12 routes. Also transit time was cut on 10 major routes.

Routing changes resulted in net reduction of 390,395 train miles, for $1.7 million savings. Other major savings came from: locomotive maintenance, $1.7 million; freight station consolidation (51), $2.8 million; and yard operations, $5.4 million. With other eliminations, these brought total savings to $22.5 million.

However, two big discrepancies showed up between estimated and actual costs for labor (actual $30.4 million, estimated $2.8 million) and first-year capital improvements (actual $43.2 million, estimated $27.5 million). Among the labor costs were $17.7 million for separation allowances (2,495 employees were separated) and $1.8 million for relocation expenses (1,147 were relocated).

Regarding the net effect of all the merger actions on railway operating revenues and net incomes, PC says: "It is not possible at this time to make accurate appraisals in answer to this item. As shown by the R&E and IBS reports already submitted to the Commission, the complexities and problems involved in a merger of this magnitude initially have had an adverse effect on both operating revenues and net income."



FOUR YEARS AGO . . .
Minneapolis, Northfield & Southern bridge over Minnesota River (tributary of the Mississippi), April 16, 1965.

. . . AND 11 DAYS AGO
With record flooding expected, the MN&S bridge was still above water on April 3 and normal track work was possible. But MN&S, and other roads, were taking no chances.

Railroads match wits with Old Man River

For weeks, railroads in position to be hurt by the predicted flood waters in the West have been rushing preparations to cope with the crisis.

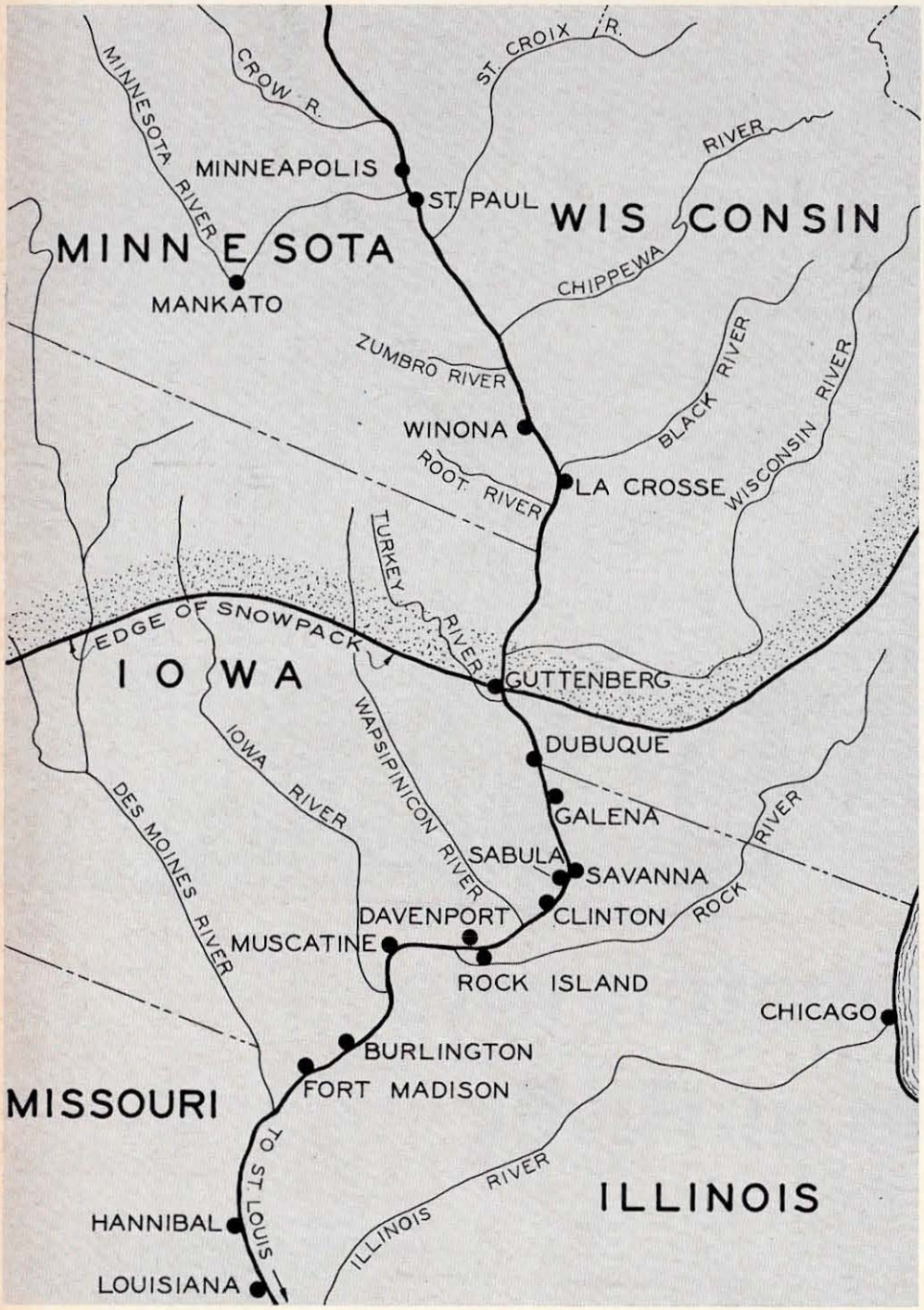
By MERWIN H. DICK
and
R. E. DOVE

Predicted record or near-record high water in the Mississippi River, to crest at St. Paul after the middle of April, will find the railroads prepared. Probably never before have such thorough preparations been made by so many roads to cope with an impending high-water crisis.

All the way down the river from the Twin Cities to St. Louis, railroads paralleling or crossing the Mississippi or its tributaries have for weeks been engaged in building their defenses. These preparations are based on a simple battle plan: Do what can be done within reason to keep traffic moving and to minimize property damage; but if lines have to be closed, be sure that steps have been taken to minimize the time out of service.

● **Allies: Sand bags and riprap.** Much dependence is being placed on those two staunch allies of flood fighters—sand bags and riprap. The quantity of sand bags being filled and placed in dikes or other structures or stockpiled for use as needed runs into the hundreds of thousands. Thousands of cars of riprap are being dumped at vulnerable locations, mostly to protect embankments and shoulders against the action of waves and current.

Where a few inches to a foot or so of lift will provide significant protection for tracks, they are being raised on new ballast, and loaded ballast cars are being accumulated at locations where further raising may become necessary. These cars of ballast will also come in handy for spotting on



THE DANGER SPOT

At least 10 railroads have lines that could be affected by flooding in the upper Mississippi River valley. The river is expected to crest around April 19.

bridges to load them down if they appear in danger of being washed out. Later in the season the ballast will be used for routine track-raising operations.

● **Battle plans.** Master flood-fighting plans have been prepared on those roads with extensive properties vulnerable to the high water. These give detailed instructions covering every aspect of the preparations. The items covered include the provision and allocation of riprap, sand bags and ballast, and every other conceivable type of material that may be needed, including crossties, rails, turnouts and bridge materials, such as complete panels of timber pile trestles. A sampling of the plans of several roads reveals that they also contain instructions for the provision and allocation of all manner of equipment and other items that may be needed, such as cranes, clamshells, track-raising machines, spreaders, motor cars for track inspection, portable radios, portable floodlights, and outfit cars for housing extra employees.

In some cases battle-station assignments are made for personnel, from vice presidents down to track laborers.

Engineering officers of railroads in the flood territory are quick to admit that, without spending prohibitive sums, complete protection against such floods as occurred in 1965 is not possible. This raises the possibility that some lines may have to be closed to traffic if the water rises high enough. That's why some railroads in the area are ready with detailed plans for detouring trains if this should become necessary.

While the flood-control preparations have been in progress, responsible officers have been keeping a wary and anxious eye on flood-crest predictions by the Weather Bureau and the U.S. Army Corps of Engineers. These predictions are subject to revision as new developments—added precipitation or changes in temperatures—come into the picture. The hope, of course, is that the early predictions have been on the high side. But there's always the possibility the reverse will be true, that the final crests will be higher than at first predicted.

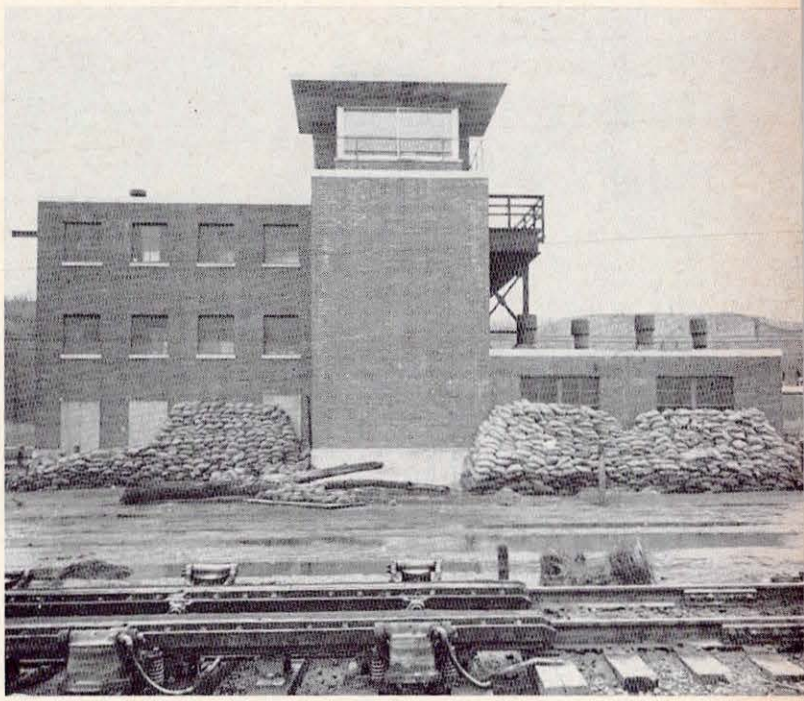
● **Memories of 1965.** That's what happened during the record floods that put the Mississippi on a rampage in 1965. And railroad men on the scene at that time are not about to forget what happened. Early predictions on the height of the crests turned out to be conservative. With their plans set to cope with the crests that were first predicted, railroaders up and down

APRIL 1965 Milwaukee Road's Pig's Eye yard at the height of the 1965 Mississippi flood.

APRIL 1965 St. Paul skyline shows in this view of Pig's Eye yard during the 1965 high water season.

HIGH WATER—WILL SANDBAGS KEEP IT AWAY?

APRIL 1969 Sandbags being loaded on the Milwaukee to cope with this year's expected floods.



APRIL 1965 Here, a Milwaukee retarder tower as it was protected by sandbags in 1965.

the river repeatedly had to revise their plans as successively higher crests were predicted. In the end they frequently saw their efforts nullified when the properties were washed out or engulfed by the rising waters. Planning for the 1969 floods has been aimed at avoiding this pattern of developments.

● **Weather Bureau gives alert.** A portent of what to expect came in early March, when the U.S. Weather Bureau announced that conditions in the upper Mississippi River basin were right for producing serious flooding. At some locations, it forecast, the water stage would exceed the highest on record.

From surveys made of the ground snow cover in the upper part of the watershed, the Bureau found that the water content of the snowpack was unusually high, from 4 to 8 inches along the Mississippi River basin north of St. Paul and from 2 to 5 inches below St. Paul to Guttenberg, Iowa. In addition, the water content of the snowpack along the Minnesota River basin ranged from 4 to 9 inches. This river drains into the Mississippi just above St. Paul. The water content of the snowpack in the drainage areas of other Mississippi tributaries—the St. Croix, Chippewa, Black and Wisconsin rivers—also was heavy.

● **On the plus side.** Observations made during the snowpack survey indicated some mitigating conditions. Frost in the ground was found to be very shallow. February precipitation in general was below normal except in southwestern Minnesota, where it was above normal. Winter streamflows were well above normal because of unusually mild temperatures during February. Water levels in the lakes at the headwaters of the various tributary streams, which had been previously dammed to form reservoirs, were expected to be down to the minimum prior to breakup.

However, the Bureau knew that, even with normal precipitation in the areas during March and April, flooding could be expected. To provide informa-

PRODUCTION-LINE OPERATIONS, such as this one on the "Q," can fill as many as 5,000 bags with sand each day.

TRAINLOAD OF RIPRAP on its way for dumping on the CB&Q. Thousands of such cars are being placed in the flood area.

THE BURLINGTON GIRDS ITSELF AGAINST FLOODING

SANDBAGS are sometimes filled at the site of application. Here, men work atop an embankment protected with riprap.

SANDBAG DIKES, like this one at Winoa Junction, can be found almost anywhere in flood-threatened terrain.

tion for emergency flood preparedness, it issued its flooding forecast.

● **Forecast is revised.** Since the original forecast, issued on March 4, a warm period occurred. This prompted the Weather Bureau, as well as the Corps of Engineers, to view the situation more optimistically. Cold temperatures at night slowed the snowmelt so that moisture was held back at night and released during the day. This produced a more orderly dissipation of drainage. Also, the amount of precipitation was less than normal, except for a storm on March 20 that deposited snow in the Minnesota River basin and rain in the Wisconsin River flowage. On March 27, the Weather Bureau issued new flood-stage forecasts which, in general, were lower than originally predicted, but still contained warnings of serious flood potential in certain areas.

The Weather Bureau is watching conditions closely. As required by subsequent meteorologic events, updated revisions will be made.

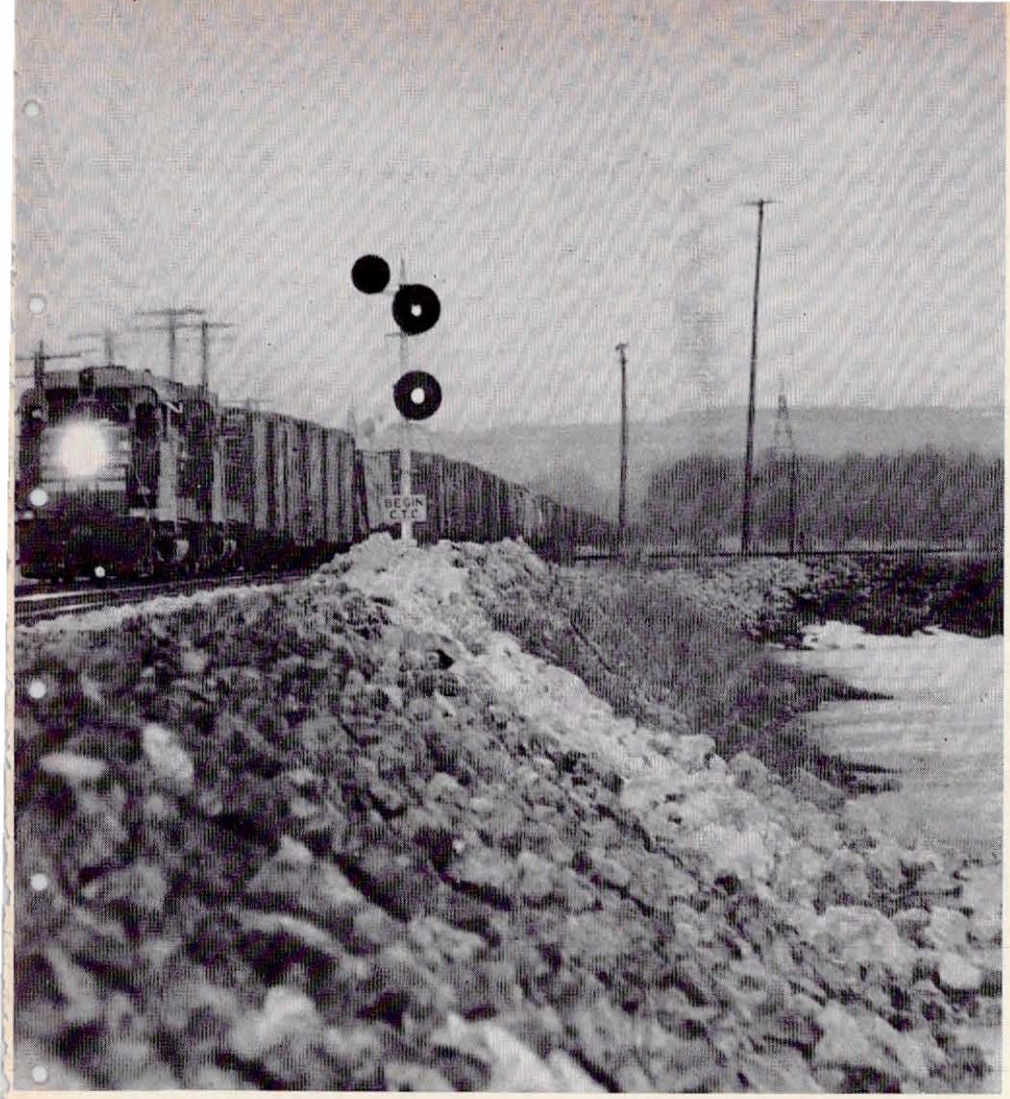
● **Corps of Engineers is active.** Following a White House directive, the Office of Emergency Preparedness asked the Defense Department to allow the Corps of Engineers to spend up to $15 million out of emergency funds for clearing channels and assisting communities in repairing and constructing dikes. The Corps is also regulating the flow from the various reservoirs so as to keep the lower channels running full without producing flooding. It is, in addition raising the gates of several of the dams previously constructed for navigation purposes along the Mississippi River.

Mindful of the criticism leveled at it during the flood of 1965, the Corps points out that it must, by reason of the "Anti-Drawdown Law" maintain a 9-foot channel. It further explains that storage capacities of the pools above these dams are so small that, even if the dams were removed, the pools would be refilled in a matter of hours.

Among the roads that must cope with floods in the Mississippi valley are the Burlington, Milwaukee, North Western, Northern Pacific, Great Northern, Soo Line, Green Bay & Western, Santa Fe, Illinois Central and Rock Island.

Where possible, the roads have been coordinating their efforts. An example is provided by a location at the Twin Cities where the Burlington, Milwaukee and North Western have contiguous yards. By arrangement, a sandbag dike will be built across one end of these yards when the water in the Mississippi reaches a critical stage. Washing of the tracks in the yards will, thereby, be minimized.

● **Extensive plans on CB&Q.** At the time of the 1965 flood, Ivan C. Ethington, operating vice president of the Burlington, was serving as assistant operating vice president. He is in a position, therefore, to have vivid memories of what happened during that historic flood. Hence, when he heard of the flood predictions being made for April of this year he directed his engineers to start developing counter-



SIDE SLOPES of this embankment on the Burlington, like many similar sites in the potential flood zone, are protected from wave and current action by riprap.

measures immediately. This was late in February.

The Burlington's chief engineer, D. V. Sartore, is taking an advanced management training course at Harvard, and is not scheduled to be back on the job until May 9. Thus, main responsibility for administering flood-control preparations fell on the shoulders of C. J. Bryan, assistant chief engineer. As the first step he directed that a meeting be held of key engineering personnel—the engineer of track, the bridge engineer, the engineer of capital expenditures, and the concerned division engineers and roadmasters. Assignment of the meeting—of which L. R. Hall, engineer track, was chairman—was to map a flood-control plan.

By March 1 a plan action had been drawn up. After that, status reports were submitted weekly to Ethington's office to keep him posted on the progress made in implementing the flood-control plan.

● **It follows the river.** The Burlington's flood-control efforts are directed at the protection of several hundred miles of line extending along the Mississippi between St. Paul and St. Louis. Crossings of the river are made at Winona, Minn. (joint with the Green Bay & Western), Rock Island, Ill., Burlington, Iowa, Quincy, Ill., and Alton, Ill.

In addition to the flood-control preparations, the engineers were asked by Ethington to provide a daily report, with copies to key personnel, giving pertinent information on flood conditions at critical points along the Mississippi River.

● **Objective: Minimize damage.** Assistant Chief Engineer Bryan explains the objective of the road's planning efforts: "Our intention is to keep operating as long as possible as the water keeps rising and then to keep the out-of-service time to a minimum if it becomes necessary to stop operation. At all times the objective will be to minimize damage to the property, such as washing of the track."

To explain how damage can be prevented or at least reduced, he cites an example involving the 1965 flood. At that time the water behind a dam on the Mississippi rose until it was on the verge of flowing around the end of the dam, which would wash out the road's tracks. It was necessary to construct a sandbag dike to prevent this flow at that time.

This year, a sandbag dike has been built across the company's property at the end of the dam, leaving an opening for the tracks. If the tracks are put out of service because of trouble upstream, and it appears that the water behind the dam may overflow the tracks again, the hole in the dike will be plugged. While the water will then build up over the tracks it will be relatively still water which very likely will not do any damage to the tracks.

● **Riprap—1,100 cars.** At locations where there is a possibility that water may overflow the tracks causing washing, riprap is being used to build up the embankment on the river side to about nine or ten inches above the rail. For this and other purposes, says Bryan, the road anticipates placing a total of about 1,100 cars of riprap. "We'll be unloading riprap right up to the day the crest is expected," he adds.

● **Operation sandbag.** To meet its requirements for filled sandbags, Burlington established a production-line operation at North La Crosse, Wis., for filling the bags. A sandbag loader, which includes a hopper and a discharge opening where the bags are filled, was rented from a local contractor. A dragline was brought in for loading the hopper. A bulldozer was provided for keeping the sand pile in shape for the sand to be picked up by the dragline.

The dragline and the bulldozer are railroad-owned machines. Their operators are railroad employees. For handling the filling and loading of the bags on flat cars, nine extra men were hired locally.

The sandbag-filling operation got under way on March 14. By March 27 a total of 30,000 bags had been filled. The maximum daily production was 5,000 bags. Bryan says that 300,000 sandbags have been shipped to North La Crosse for filling and to other points for filling in the field if the need for them develops.

One of the first applications of the filled sandbags was the construction of a dike around the Q's division headquarters at Hannibal, Mo. This building houses the CTC control center for the entire Hannibal division.

(Continued on next page)

The North Western has set up a similar sandbag-filling operation.

One of the steps being taken on the Burlington to prevent washing of embankments is the placement of black plastic sheeting, held down with sandbags, to slopes at locations where there is reason to expect trouble. A total of 7,000 feet of the sheeting is ready.

● **Facets of the plan.** Illustrative of the forethought and careful planning going into the railroads' flood-control preparations are these other examples of the measures being taken by the Burlington:

—During the 1965 flood the Dayton's Bluff yard at St. Paul was covered by debris, including large amounts of peat moss, left by the receding flood waters. To prevent this from happening again, about 2,000 feet of farm fence has been constructed along the river side of the yard.

—Switch machines in danger of being damaged by flood water will be removed and loaded into cars for movement to higher ground. Cars for this purpose have been spotted at critical points.

—If flooding of signal wells seems imminent, the batteries will be removed and the wells will be loaded down with sandbags to keep them in position.

—Local forces have instructions to keep underground fuel storage tanks fully loaded to prevent them from being "blown" out of the ground by hydrostatic pressure if floods come.

—Forces of the road are working closely with local levee districts, municipalities and other governmental bodies in areas where conditions indicate that cooperative efforts and joint participation will afford mutual protection.

—A railroad representative—R. V. Gilbert, assistant to chief engineer—has been assigned to serve in a liaison capacity with the Corps of Engineers. He checks daily on the stages of the river at various points, on changes in crest predictions and on temperature patterns in the watershed area.

"Much of the protection on the Burlington is permanent in nature and will afford greater future protection," says Ethington. "The possibility of any disruption in Burlington service is remote. I am optimistic enough to say that, given any break in the weather in the next couple of weeks, our operations will be normal."

● **C&NW gets set.** Since February 20, Henry D. Hahn, staff engineer-maintenance on the North Western, hasn't had much time for his regular duties. He's been engaged full time on efforts to get the North Western set to weather whatever blows the Mississippi may have in store for it when the spring flood waters crest sometime in April.

Working under the direction of M. S. Reid, assistant chief engineer-maintenance, Hahn is to see that all steps possible are taken to eliminate or minimize damage to the company's properties and reduce traffic interruptions to a minimum. In that capacity he's been coordinating the preparatory activities of the concerned divisions. He's also been serving as liaison man with the Corps of Engineers.

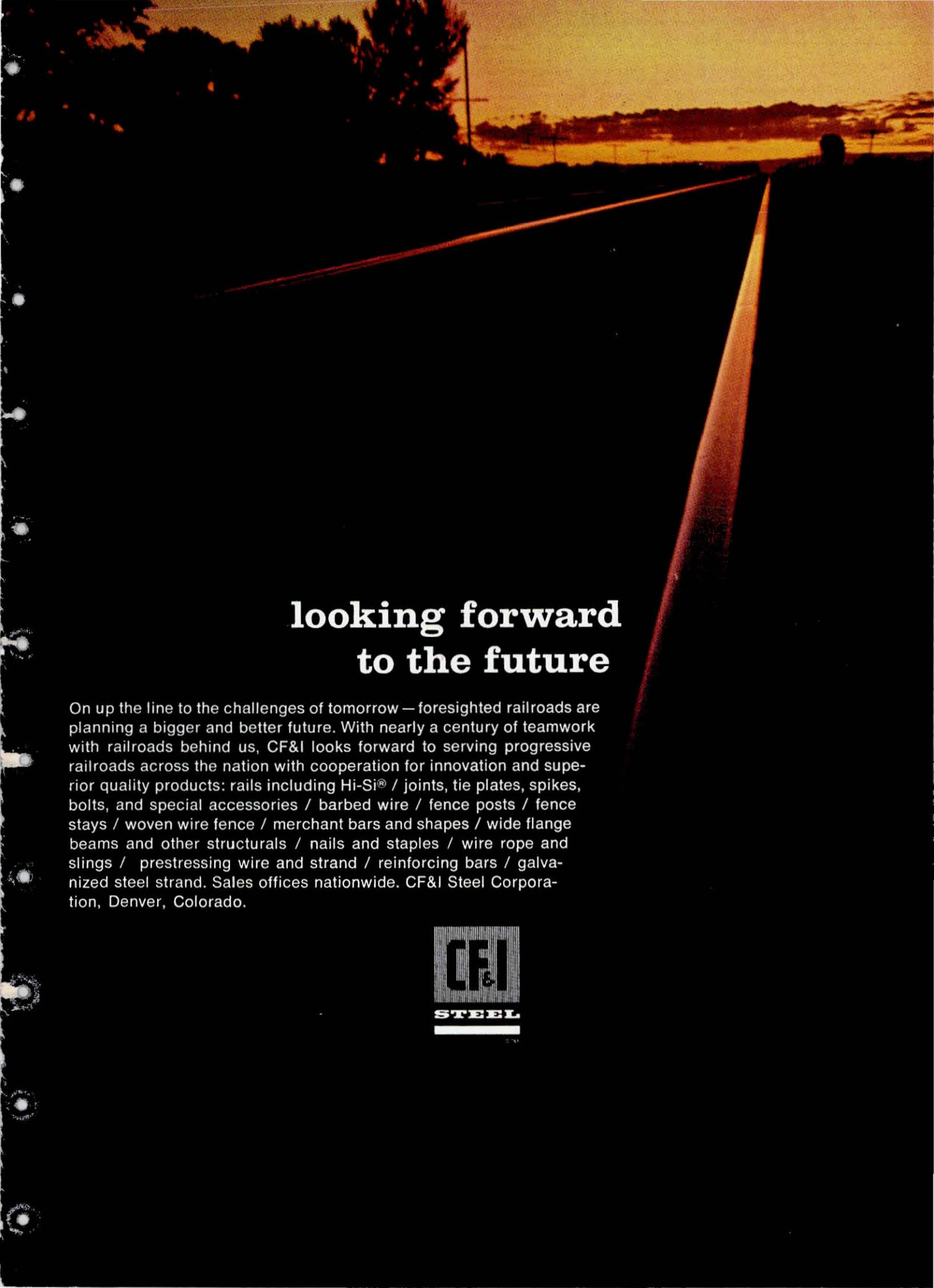
Hahn first familiarized himself with previous flood experiences of the North Western by digging through the files in the headquarters office at Chicago and talking to people on the divisions.

(Continued on page 23)

FLOOD DATA
As compiled by the U.S. Weather Bureau

Location	River	Flood Stage	Max. of Record Stage	Max. of Record Date	Predicted * Stage	Predicted ** Stage	Predicted *** Stage	Predicted **** Stage
Aitkin, Minn.	Mississippi	12.0	19.5	5-20-50	18.5	19.0	20.0	21.0
St. Paul	"	14.0	26.0	4-16-65	22.5	25.5	22.5	25.5
Red Wing	"	14.0	20.7	4-18-65	17.5	19.0	17.5	19.0
Wabasha	"	16.0	20.0	4-19-65				
Winona	"	13.0	20.8	4-20-65	19.0	21.0	18.5	19.5
LaCrosse, Wis.	"	12.0	17.9	4-21-65	16.5	18.0	16.0	17.5
Lansing, Iowa	"	18.0	22.5	4-24-65				
Prairie du Chien	"	18.0	25.4	4-24-65				
Guttenberg, Iowa	"	15.0	23.6	4-16-65	21.0	24.5	20.0	23.5
Dubuque	"	17.0	26.8	4-26-65	25.0	27.5	24.0	27.0
Gordon's Ferry	"	18.0	24.4	4-26-65				
Sabula	"	16.0	22.9	4-28-65				
Clinton	"	16.0	24.8	4-28-65	23.0	25.5	22.0	24.5
LaClaire	"	12.0	17.0	4-28-65	16.0	19.0	15.0	18.0
Moline	"	13.5	20.6	4-28-65				
Dam #15	"	15.0	22.5	4-28-65	20.5	23.5	19.5	22.5
Muscatine	"	16.0	24.8	4-29-65	23.0	26.0	22.0	25.0
Keithsburg	"	12.0	20.4	4-27-65	19.0	21.0	18.0	20.5
Burlington	"	12.0	21.0	5-01-65	19.5	22.0	19.0	21.5
Keokuk	"	16.0	22.1	5-01-65	20.5	23.5	20.0	22.5
Gregory Ldg.	"	16.0	22.7	5-01-65	21.0	24.0	20.0	23.0
Quincy, Ill.	"	17.0	24.8	4-28-65	23.0	26.0	22.5	25.5
Hannibal, Mo.	"	16.0	24.6	5-01-65	23.0	25.5	22.5	25.0
Louisiana	"						20.5	22.5
	Tributaries of Mississippi:							
Rockford, Minn.	Crow	10.0	19.3	4-16-65	14.5	16.5	14.5	16.5
St. Francis	Rum	10.0	11.5	4-19-65	11.0	12.5	11.0	12.5
Montevideo	Minnesota	20.0	20.0	4-10-52	21.0	22.0	21.0	22.0
Mankato	"	19.0	29.9	4-16-81	29.0	32.0	29.0	32.0
Carver	"	18.0	34.4	1965				
Durand	Chippewa	11.0	18.4	1884	14.0	15.5	12.5	14.0
Theilman, Minn.	Zumbro	38.0	45.8	3-02-65	42.0	46.0	42.0	46.0
Galesville, Wis.	Black	12.0	14.3	1938	11.0	12.5	11.5	12.5
Muscoda	Wisconsin	9.0	11.5	1938	7.5	9.5	7.5	9.0
Houston, Minn.	Root	15.0	17.6	1952	18.0	19.5	18.0	19.5
Garber, Iowa	Turkey	17.0	28.1	2-23-22	21.5	26.5	21.5	26.5
Maquoketa	Turkey	13.0	24.7	6-27-44	14.0	19.0	14.0	19.0
De Witt	Wapsipinicon	10.0	12.1	6-27-44	10.0	11.5	10.0	11.5
Joslin, Ill.	Rock	12.0	16.2	2-13-66				
Wapello, Iowa	Iowa	10.0	17.3	4-13-65	13.0	16.5	13.0	16.5
Augusta	Skunk	15.0	25.0	4-03-60	8.0	18.0	8.0	18.0
Keosauqua	Des Moines	15.0	27.8	6-01-03	11.0		11.0	
Canton, Mo.	Wyaconda	17.0	30.0	6-30-33				

*With snow cover of March 8 (no precipitation)
**With snow cover of March 8 (plus normal precipitation)
***Prediction as revised March 27 (no precipitation)
****Prediction as revised March 27 (plus normal precipitation)
Note: Zero at each gage location is low flow at that point.



looking forward to the future

On up the line to the challenges of tomorrow — foresighted railroads are planning a bigger and better future. With nearly a century of teamwork with railroads behind us, CF&I looks forward to serving progressive railroads across the nation with cooperation for innovation and superior quality products: rails including Hi-Si® / joints, tie plates, spikes, bolts, and special accessories / barbed wire / fence posts / fence stays / woven wire fence / merchant bars and shapes / wide flange beams and other structurals / nails and staples / wire rope and slings / prestressing wire and strand / reinforcing bars / galvanized steel strand. Sales offices nationwide. CF&I Steel Corporation, Denver, Colorado.

CF&I
STEEL

CASEY JONES

(The Brave Engineer)

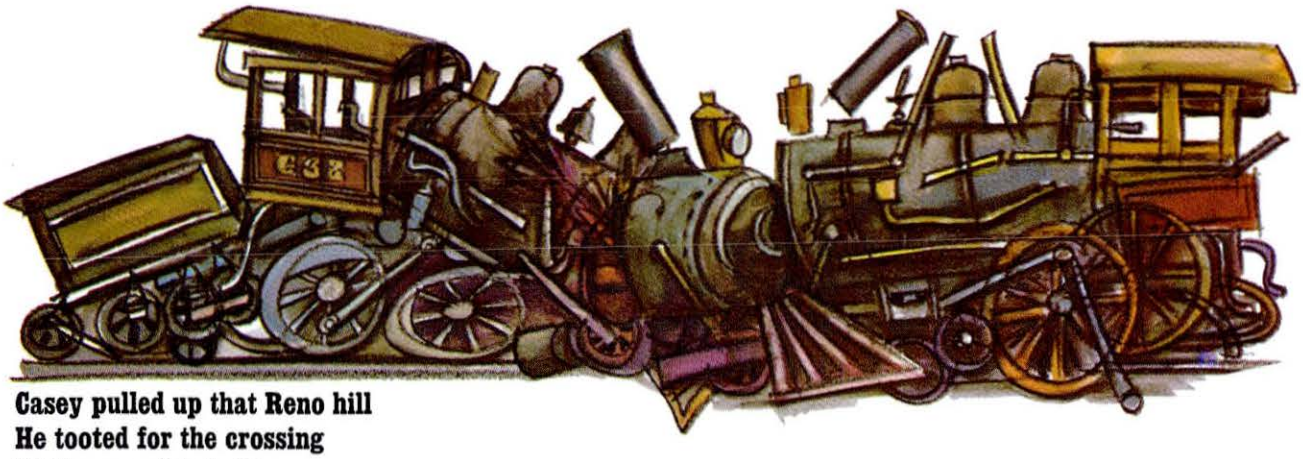
This is the most famous of all railroad songs. At the time of the tragedy, according to one legend, Casey, throttle-puller of the Illinois Central's crack "Cannonball," was driving No. 638, making a run for a friend who was ill. The train was wrecked at Vaughan, Mississippi, and Casey died at the throttle.

Come all you rounders
If you want to hear
A story 'bout a brave engineer
Casey Jones was the rounder's name
On a six eight wheeler
Boys, he won his fame

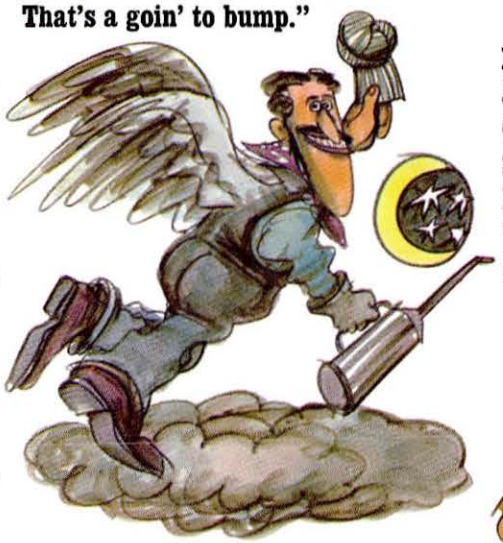
The caller called Casey
At a half past four
Kissed his wife at the station door
Mounted to the cabin
With his orders in his hand
And he took his farewell trip
To that Promised Land.

Casey Jones, mounted to the cabin
Casey Jones, with his orders in his hand
Casey Jones, mounted to the cabin
And he took his farewell trip
To the Promised Land.

Put in your water
And shovel your coal
Put your head out the window
Watch them drivers roll
I'll run her till she leaves the rail
'Cause I'm eight hours late
With that western mail
He looked at his watch
And his watch was slow
He looked at the water
And the water was low
He turned to the fireman
And then he said
We're goin' to reach Frisco
But we'll all be dead.



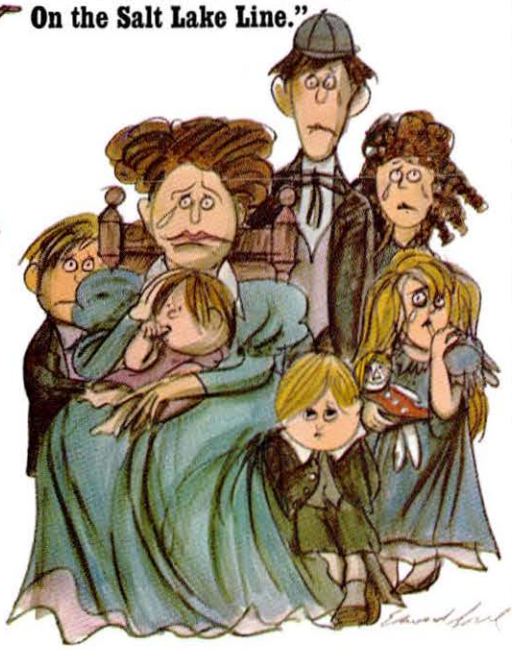
Casey pulled up that Reno hill
He tooted for the crossing
With an awful shrill
The switchman knew
By the engine's moan
That the man at the throttle
Was Casey Jones
He pulled up within two miles
Of the place
Number Four stared him
Right in the face
He turned to the fireman
Said "Boy, you better jump
'Cause there's two locomotives
That's a goin' to bump."



Casey said just before he died
There's two more roads
That I'd like to ride
The fireman said
What could that be

The Southern Pacific
And the Santa Fe.

Mrs. Jones sat on her bed a sigh'n'
Just received a message that
Casey was dy'n'
Said "Go to bed, children, and
Hush your cry'n'
'Cause you got another papa
On the Salt Lake Line."

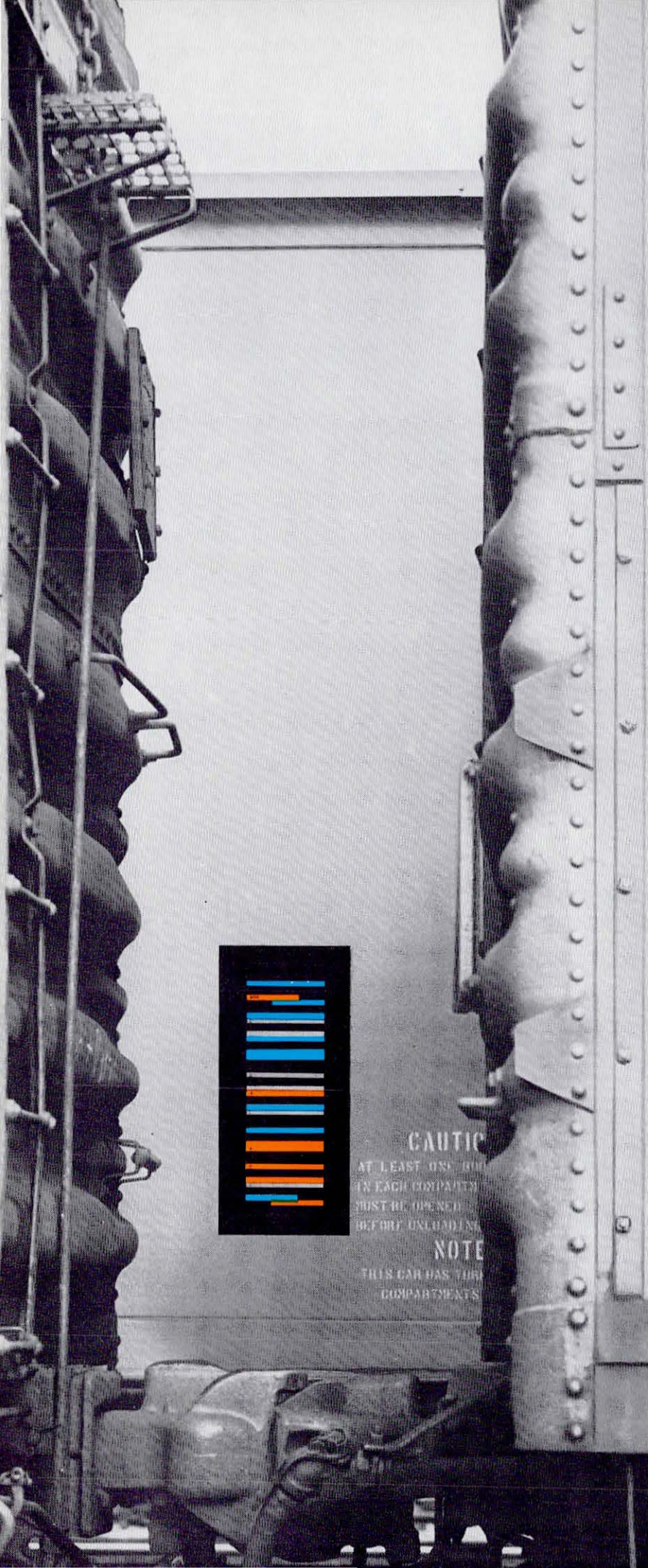


The Casey Jones legend is part of the romance of railroading and that's why we at NDH like it. But, as you know, railroading is a tough, practical business with no tolerance for downtime. We like that, too. New Departure-Hyatt Taper Freight Bearings are made to keep rolling stock out of the shop and on the road with a minimum of maintenance.

NDH Taper Freight Bearings are writing a new chapter in dependability on the roads of America, today. We'll be happy to send you, upon request, a full-color reprint of this advertisement with no commercial message, which you can frame and hang in your office. We think Casey would have liked that.

NEW DEPARTURE HYATT BEARINGS
Division of General Motors Corporation, Sandusky, Ohio 44870

©New Departure-Hyatt Bearings Division, General Motors Corporation 1969. Casey Jones (The Brave Engineer) Copyright 1909 by Newton & Seibert. Copyright renewed and assigned to Shapiro, Bernstein & Co. Inc. Copyright 1937 Shapiro, Bernstein & Co. Inc. "Used By Permission."



NOW WABCO offers you AAR-approved ACI, plus complete systems capability

WABCO is now licensed to make and sell ACI systems that read the approved color coded label. But that's only half the story.

Equally important, we will interface ACI with your railroad's communications/data processing system.

Our experience in mating railroad hardware and software for complex jobs is your guarantee of a *workable* ACI system.

We make our own high speed code equipment and can interface with any other manufacturer's equipment.

Our design flexibility will give you whatever degree of ACI sophistication you need, up to and including a completely automated system.

ACI, properly used, can be an efficient railroad tool. If you're ACI-minded, come to the railroad specialists—the ones who can tailor ACI to your specific communications/data processing system. Come to WABCO. Signal & Communications Division, Pittsburgh, Pennsylvania 15218.

WABCO

WESTINGHOUSE AIR BRAKE CO.
a subsidiary of
AMERICAN-STANDARD

(Continued from page 18)

Surveys were made on the divisions to pinpoint places where trouble was experienced during previous floods, notably those in 1965 and 1952. And visits were made to the Corps of Engineers at St. Paul, Rock Island, Ill., and Omaha. Purpose of these was to keep abreast of flood-control projects being pushed by the Engineers, particularly those having a bearing on railroad operations.

Another of Hahn's assignments is to to keep a record of the flood stages in the river and the crest predictions at critical points on the road. Beginning March 31, he started making daily calls to the Corps of Engineers to get information on the current stage of the river at the critical points and on the latest crest predictions at these points. Out of Hahn's efforts has come a document, called the "1969 Spring Flood Program," which sets forth in detail the preparatory work to be done.

Says the North Westerns' Reid "The Corps of Engineers, acting on advice from the U.S. Weather Bureau, was predicting a flood stage at Clinton seven-tenths of a foot above the 1965 crest. But this has recently been lowered to three-tenths of a foot below the '65 mark. However, the prediction at Mankato, Minn., is still for a crest nearly three feet above that reached in 1965. With our preparations we are hoping to keep out of trouble at most points and to minimize damage at others where flooding seems inevitable."

● **Milwaukee preparations.** Tracks of the Milwaukee Road between St. Paul and Muscatine, Iowa, are within the potential flood area. Having gone through the flood of 1965, the road is aware of where trouble can be expected and is now taking steps to eliminate or minimize the weak spots. W. E. Fuhr, Milwaukee's assistant chief engineer-maintenance, is in charge.

For the most part, the road's tracks along the Mississippi River are constructed well above flood stage. But, in assessing the points of vulnerability, Fuhr says, "We are raising the track and protecting embankments from current and wave action with riprap, polyethylene sheeting and sandbags, where necessary. We are working on the basis that we may have flood stages equal to the 1965 flood stage.

"Our major concern in connection with the predicted flood stages," he continues, "is our track between Savanna, Ill., and Sabula where our eastbound main will be raised a minimum of 1.5 feet. Presently, we are concentrating our work at this point."

At St. Paul, where the predicted water level is 10 feet above flood stage, the road has made plans and has already started work for removing facilities that would be involved in the high water. This includes electric motors, electrical sub-stations, communication facilities and data-processing machines in the first floor of the superintendent's office. Also involved are switch heaters, which would have to be removed and the gas mains plugged, and some signal facilities.

USE OF SANDBAG DIKES to prevent tracks from being washed out at the end of a dam is illustrated by this view on the Milwaukee taken during the 1965 floods.

● **Rock Island is better off.** This year the situation of the Rock Island is much better with respect to flooding than it was in 1965. Then high water came over the tracks in the yard at Inver Grove, Minn., but this year the city and the Corps of Engineers have constructed a levee on the river side, which should keep the Rock Island tracks above flooding. A dike also was built by the John Deere Co. at Moline, Ill., which should afford protection for the tracks. Another dike may be built by the Corps of Engineers at East Moline, Ill. The railroad is holding the raising of its tracks at this point in abeyance, meanwhile keeping a close watch on flood conditions at the upper end of the Mississippi River near St. Paul.

Farther down on the Mississippi, the Rock Island expects its tracks at Burlington, Iowa, and at Keokuk to be under water for a short time. With this in mind, it is placing a large amount of riprap to prevent washing at these and other points.

● **Soo ready for trouble.** Although it knew that some rivers crossed by its lines would overflow in early April, the Soo is not unduly alarmed because highwater is predicted to be about four feet below that of the 1965 flood. In addition, it has noted that snowmelt has been seeping nicely into the ground in its territory. However, the road has prepared for a highwater emergency by spotting loading equipment and cars in pits for ballast, riprap and crushed stone.

● **Previous work helps IC.** During the 1965 flood the IC did a great deal of track-raising and other protective work near Dubuque, Iowa, where its main line crosses the Mississippi. This work will help the road maintain operation if another flood occurs, says A. L. Sams, vice president and chief engineer of the IC. Also of help will be a levee that the city of Dubuque built subsequent to the 1965 flood, which protects the IC's main track on the west side of the river. However, the road has men and material on hand so that a further raise can be made in the height of the levee.

Other problem points are well protected, says Sams. At Galena, Ill., the road's tracks are now at an elevation which will permit continuous operation if the flood reaches 27.5 feet on the Dubuque gauge. The tracks can easily be raised to permit operation if the flood stage reaches 30 feet.

● **Work on the Santa Fe.** The only point on the Santa Fe that is vulnerable to floods in the Mississippi is where the road's double-track main line crosses the river at Ft. Madison, Iowa. During the 1965 flood the road managed to keep its main tracks in operation at the crossing although to do so it had to raise some trackage on a crash basis.

Even so, water was lapping at the base of rail for several miles, explains H. E. Wilson, Santa Fe's assistant chief engineer system. To obtain a bit of insurance against future trouble, the railroad last year raised its main tracks west of the river to a level where the base of rail is two feet above the 1965 high-water mark. This raise involved about 3½ miles of line. Riprap was placed along the shoulder of the raised embankment.

The threat of record or near-record high water in the Mississippi this year has caused Santa Fe to carry out a track-raising project at two locations east of the river where the line parallels the stream. At these points the track nearest the stream is being raised about six inches. ■

A SIMPLE BAGGAGE CAR WAS APPROVED BY IKE

privation began to appear even as the funeral train, under a full moon, began its 50-mile-an-hour pace across Virginia. At Alexandria, Manassas, Culpepper and Charlottesville, as everywhere else for the next two nights and a day, silent, motionless thousands lined the right-of-way, some with hands on hearts, some saluting, some holding signs aloft, "Ike, We Miss You," or "Mamie, We're With You." For Abraham Lincoln's funeral train candles were held in the night; for Dwight Eisenhower's the comparatively few persons who remained in automobiles blinked their dim lights.

Starting forty-five minutes late because of ceremonial delays, the funeral train quickly made up the lost time in bursts of speed through lightly populated areas of Virginia. Radio and television, however, soon were erroneously reporting the train as already running three to four hours late.

Even more disquieting evidence of secrecy gone sour came aboard the train in the early morning with the West Virginia newspapers. One of the newswire services, frustrated by the lack of information, had sent a reporter out to track down the car which would carry General Eisenhower's body.

● **What Ike wanted.** Having found the car, the reporter could not be expected to know that General Eisenhower, some time before his death, approving for himself an $81 grey steel coffin of the type used for any GI, had also directed that it be transported, as would a GI's coffin, in a railroad baggage car. The C&O/B&O had offered its finest equipment, including office car Chessie 29, which had carried President Eisenhower in 1956 to and from the Greenbrier, at White Sulphur Springs, W. Va., when he met there with the heads of state of Canada and Mexico.

Only a simple baggage car was desired, and so No. 314 had been taken out of service weeks before its hour of need and completely reconditioned and carefully painted. The news story on Monday morning, however, presented a different picture.

The best the railroads had to offer for Ike's last journey home, the story said, was a rust-scarred relic of a bygone era, picked at random in a railroad yard and freshly painted to hide its blotches of age.

● **Brother says thanks.** Aboard Office Car 15 at Tuesday's early breakfast, Edgar Eisenhower thoughtfully watched the ranks of mourners on Kentucky station platforms and on nearby slopes. He heard, too, about the reports of the train's alleged lateness, and the criticism of the baggage car.

Turning to his brother's long-time aide, he asked if there was any marking on the car where his brother lay so that the waiting people would know. There was no such marking, in keeping with the original plan to move unnoticed. Mr. Ed then said he would like to get off the train at Cincinnati at 9:55 a.m., and thank, through the media, the thousands who had waited along the route to say goodbye to his brother.

Alerting the media

C&O/B&O's public relations staff had restricted its activities in the earlier stages to referring all calls from the media to the military and planning to move fast if it became necessary. The departent head and second-in-command were on the train. Two staff members were keeping an around-the-clock vigil in the C&O/B&O transportation department in Baltimore, where progress of the train was constantly checked. Other staff members were spotted along the route, at Washington, Huntington, W. Va., Cincinnati and St. Louis; and at the Cleveland and Baltimore executive offices. N&W's public relations head rode the train between St. Louis and Kansas City.

By radiotelephone from the train to Cincinnati, the media were alerted. On the platform at Union Terminal, while the train itself was taken to the yards and put through the washer, Edgar Eisenhower faced an assemblage of TV and still cameras, radio recording machines and reporters' pads and pencils.

He expressed appreciation to those who had come to mourn his brother. He explained that the baggage car had, so his brother's aides told him, been personally approved by the General. He thanked the railroads for their on-time operation, the equipment, and the comfort of the ride.

● **Mrs. Eisenhower appears.** While Edgar Eisenhower spoke, flags and bunting were placed on the sides of the funeral car at the request of Mrs. Eisenhower. Now the waiting throngs would know where to focus their respect and would not wait extra hours for the train's arrival.

At St. Louis's Union Station that evening, Mrs. Eisenhower, her son, Ambassador-designate John Eisenhower, and grandson David Dwight Eisenhower, appeared on the platform of the office car Santa Fe at the rear of the train. They thanked the thousands who had come to say goodbye to President Eisenhower.

On the station platform, Edgar Eisenhower repeated for another assemblage of media representatives the points he had made at Cincinnati and also at Washington, Ind. Later, privately, Mrs. Eisenhower expressed her thanks to railroad representatives for the smooth trip.

(Operational planning for the train was headed by C&O/B&O's E. T. Rucker, assistant vice president, on behalf of C. V. Cowan, operations head. N&W's J. N. Sailor, assistant vice president—operations, and UP's W. J. Fox, assistant vice president—operations, were responsible for planning the train's passage over their lines. Among the railroad men on the train were C&O/B&O's John Edwards and A. W. Johnston, regional general managers; T. H. Hackney, chief mechanical officer—cars; Howard Skidmore, vice president; C. R. Van Horn, assistant vice president at Washington; David Watts, director of passenger services; W. E. Pyne, director of public relations and advertising; William Howes, assistant passenger director; and Ken Cox, superintendent passenger food services. Also on the train was Robert Clark, Santa Fe vice president at Washington. In charge of planning the train for the Washington Military District was Sidney Cox, chief transportation officer.)

Tuesday evening, the newspapers and network news shows were reporting the train operating generally on time and Edgar Eisenhower's positive observations. Negative references to equipment or railroad operations faded from print and the air.

Arrival in Abilene's railroad yards the next morning was at the scheduled —and finally established with the news media—hour. At the station platform, in the bright sun, the silver, blue and yellow train, a few hours later, was the backdrop of a colorful and moving ceremony, rich in the panoply & military and Presidential tradition and marked by the presence of the President of the United States.

Television (and, later, the newspapers and magazines) showed a shining train, symbolic of a modern transportation industry, to the nation.

While the band played "God of Our Fathers," Ike Eisenhower, soldier, was lifted from a railroad baggage car and carried to his last place of rest under the wide Kansas sky. ■

(Continued from page 18)
Surveys were made on the divisions to pinpoint places where trouble was experienced during previous floods, notably those in 1965 and 1952. And visits were made to the Corps of Engineers at St. Paul, Rock Island, Ill., and Omaha. Purpose of these was to keep abreast of flood-control projects being pushed by the Engineers, particularly those having a bearing on railroad operations.

Another of Hahn's assignments is to to keep a record of the flood stages in the river and the crest predictions at critical points on the road. Beginning March 31, he started making daily calls to the Corps of Engineers to get information on the current stage of the river at the critical points and on the latest crest predictions at these points. Out of Hahn's efforts has come a document, called the "1969 Spring Flood Program," which sets forth in detail the preparatory work to be done.

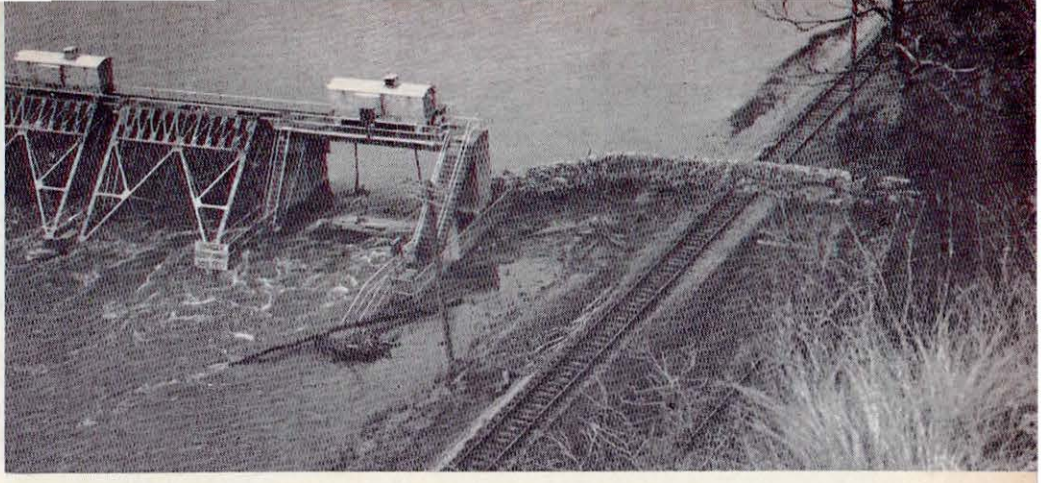
Says the North Westerns' Reid "The Corps of Engineers, acting on advice from the U.S. Weather Bureau, was predicting a flood stage at Clinton seven-tenths of a foot above the 1965 crest. But this has recently been lowered to three-tenths of a foot below the '65 mark. However, the prediction at Mankato, Minn., is still for a crest nearly three feet above that reached in 1965. With our preparations we are hoping to keep out of trouble at most points and to minimize damage at others where flooding seems inevitable."

● **Milwaukee preparations.** Tracks of the Milwaukee Road between St. Paul and Muscatine, Iowa, are within the potential flood area. Having gone through the flood of 1965, the road is aware of where trouble can be expected and is now taking steps to eliminate or minimize the weak spots. W. E. Fuhr, Milwaukee's assistant chief engineer-maintenance, is in charge.

For the most part, the road's tracks along the Mississippi River are constructed well above flood stage. But, in assessing the points of vulnerability, Fuhr says, "We are raising the track and protecting embankments from current and wave action with riprap, polyethylene sheeting and sandbags, where necessary. We are working on the basis that we may have flood stages equal to the 1965 flood stage.

"Our major concern in connection with the predicted flood stages," he continues, "is our track between Savanna, Ill., and Sabula where our eastbound main will be raised a minimum of 1.5 feet. Presently, we are concentrating our work at this point."

At St. Paul, where the predicted water level is 10 feet above flood stage, the road has made plans and has already started work for removing facilities that would be involved in the high water. This includes electric motors, electrical sub-stations, communication facilities and data-processing machines in the first floor of the superintendent's office. Also involved are switch heaters, which would have to be removed and the gas mains plugged, and some signal facilities.



USE OF SANDBAG DIKES to prevent tracks from being washed out at the end of a dam is illustrated by this view on the Milwaukee taken during the 1965 floods.

● **Rock Island is better off.** This year the situation of the Rock Island is much better with respect to flooding than it was in 1965. Then high water came over the tracks in the yard at Inver Grove, Minn., but this year the city and the Corps of Engineers have constructed a levee on the river side, which should keep the Rock Island tracks above flooding. A dike also was built by the John Deere Co. at Moline, Ill., which should afford protection for the tracks. Another dike may be built by the Corps of Engineers at East Moline, Ill. The railroad is holding the raising of its tracks at this point in abeyance, meanwhile keeping a close watch on flood conditions at the upper end of the Mississippi River near St. Paul.

Farther down on the Mississippi, the Rock Island expects its tracks at Burlington, Iowa, and at Keokuk to be under water for a short time. With this in mind, it is placing a large amount of riprap to prevent washing at these and other points.

● **Soo ready for trouble.** Although it knew that some rivers crossed by its lines would overflow in early April, the Soo is not unduly alarmed because highwater is predicted to be about four feet below that of the 1965 flood. In addition, it has noted that snowmelt has been seeping nicely into the ground in its territory. However, the road has prepared for a highwater emergency by spotting loading equipment and cars in pits for ballast, riprap and crushed stone.

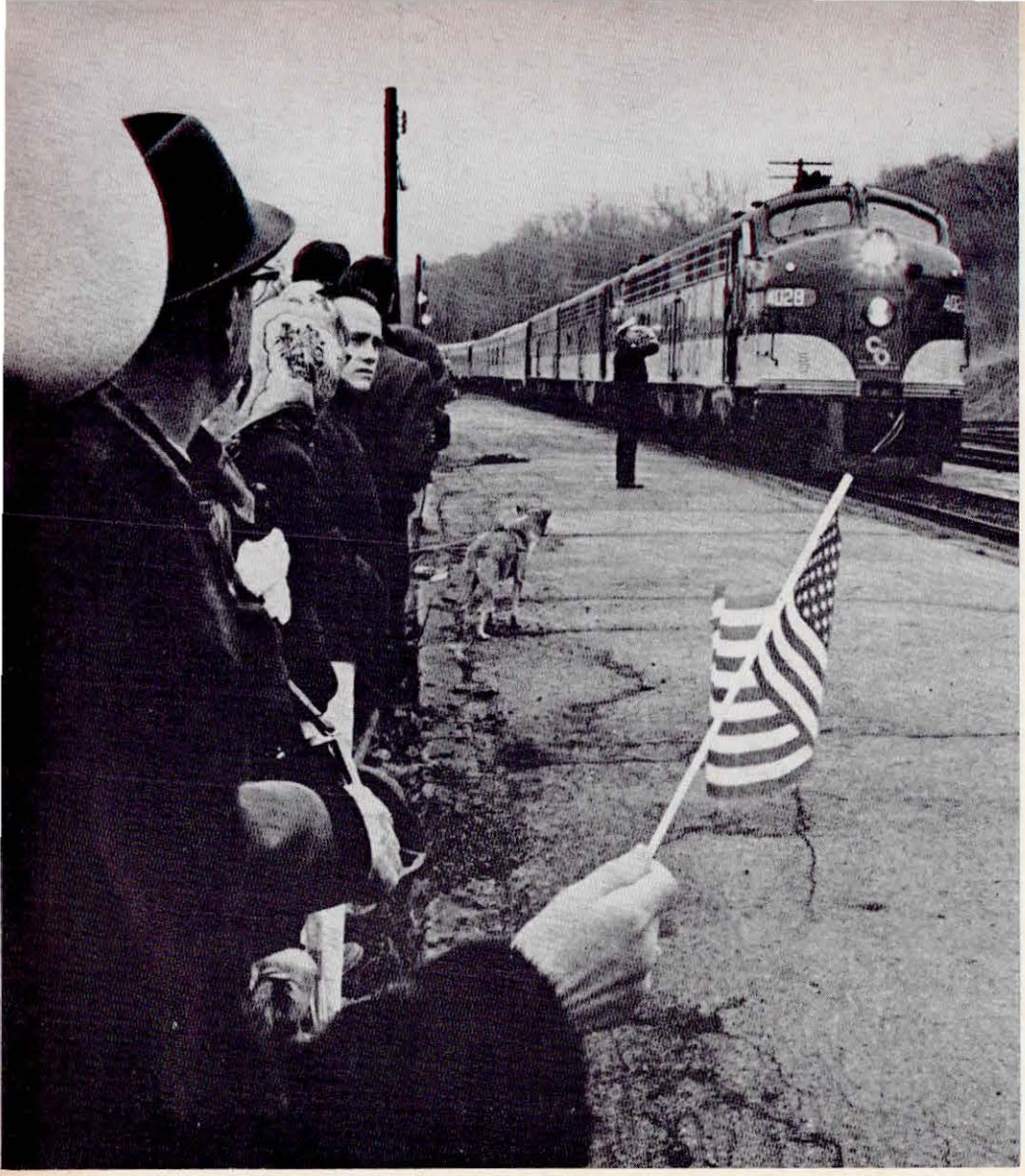
● **Previous work helps IC.** During the 1965 flood the IC did a great deal of track-raising and other protective work near Dubuque, Iowa, where its main line crosses the Mississippi. This work will help the road maintain operation if another flood occurs, says A. L. Sams, vice president and chief engineer of the IC. Also of help will be a levee that the city of Dubuque built subsequent to the 1965 flood, which protects the IC's main track on the west side of the river. However, the road has men and material on hand so that a further raise can be made in the height of the levee.

Other problem points are well protected, says Sams. At Galena, Ill., the road's tracks are now at an elevation which will permit continuous operation if the flood reaches 27.5 feet on the Dubuque gauge. The tracks can easily be raised to permit operation if the flood stage reaches 30 feet.

● **Work on the Santa Fe.** The only point on the Santa Fe that is vulnerable to floods in the Mississippi is where the road's double-track main line crosses the river at Ft. Madison, Iowa. During the 1965 flood the road managed to keep its main tracks in operation at the crossing although to do so it had to raise some trackage on a crash basis.

Even so, water was lapping at the base of rail for several miles, explains H. E. Wilson, Santa Fe's assistant chief engineer system. To obtain a bit of insurance against future trouble, the railroad last year raised its main tracks west of the river to a level where the base of rail is two feet above the 1965 high-water mark. This raise involved about 3½ miles of line. Riprap was placed along the shoulder of the raised embankment.

The threat of record or near-record high water in the Mississippi this year has caused Santa Fe to carry out a track-raising project at two locations east of the river where the line parallels the stream. At these points the track nearest the stream is being raised about six inches. ■



A NATION GRIEVES—Crowds gather at station trackside in Kentucky as funeral train passes by. Efforts to keep route secret were futile.

MRS. EISENHOWER, and grandson David, on rear platform at St. Louis.

Ike's last rail journey:

Working under a veil of secrecy that led to some distorted press reports, railroad operating men nonetheless turned in a near-flawless performance—and earned the publicly-stated thanks of the Eisenhower family.

To Edgar Eisenhower, a warm, friendly man in the pattern of his late brother, Dwight D. Eisenhower, must go the first credit—and the thanks of the railroad industry, if not the whole nation—for heading off what the news media of the world might have been only too ready to describe as a second funeral train fiasco.

Actually, the train which carried the late President from Washington to his crypt on the Kansas prairies was exactly the opposite of failure. It operated on time. The shining passenger cars and locomotives worthily represented the modernness of today's railroad industry as they passed in solemn review before hundreds of thousands of Americans lining the route and millions more on television. Because of railroad advance planning as painstaking as that which the U.S. Army put into the funeral ceremonies themselves, there was no injury to a spectator or mechanical mishap with the train.

However, as the three diesel units and ten cars headed out from Washington on Monday, March 31, the stage had been set for misrepresentation damaging to the three railroads directly involved in the move and, by extension, to the entire industry. Circumstances had so arranged it that if the train arrived in Abilene on schedule thirty-seven hours later, the media would erroneously, but justifiably, in the absence of correct information, report it as being over eight hours late. And the car carrying the General's

SYMBOL OF MOURNING—At Cincinnati, railroad men drape bunting over funeral car. Family reversed earlier decision to leave car bare.

"THANKS"—Edgar Eisenhower, at Cincinnati Union Terminal, thanks those who came to pay their respects, and praises train's smooth performance.

The inside story

casket would be described for the world as a rusty relic of a bygone era, picked at random in a railroad yard.

● **The burden of secrecy.** As every railroad chief executive and public relations officer knows, the news media in the absence of information will get misinformation. In the case of the Eisenhower funeral special, the Chesapeake & Ohio/Baltimore & Ohio, Norfolk & Western and Union Pacific, who shared the 1,300-mile journey, were not only stayed from giving out information, but could not even admit publicly that such a train existed. All information was properly, at the beginning, to come only from the military.

Fortunately, Edgar Eisenhower, of Tacoma, a successful attorney and a vigorous 80 years of age, was on hand to help change the ground rules of secrecy when it came time to do so. In the process, he also helped save the railroad industry's good name.

Upon General Eisenhower's death, on Friday, March 28, the Military District of Washington, which in a 90-page document had detailed the funeral plans down to the 39 steps a general would take on Union Station's high-level platform, announced at a 6 p.m. news conference the schedule of services and ceremonies of the next five mournful days. Of the train it was stated only that it would leave Washington on Monday after the funeral service at National Cathedral, and would arrive in Abilene at midnight Tuesday. The media were told that, at the family's request, the train schedule and route to Abilene would not be released and reporters would not be allowed on board.

● **A faulty timetable.** Actually, the announced arrival time was incorrect, apparently the result of a misunderstanding. Railroad schedules as submitted called for arrival not at midnight Tuesday but at 6 a.m. Wednesday. The next day, Saturday, reportedly because of President DeGaulle's planned arrival hour in Washington and the consequent need to delay the funeral service, the train schedule was changed, and firmed. Departure from Union Station was now to be at 6:30 p.m., with arrival at 6:45 a.m. Wednesday.

● **Confusion compounded.** Sunday's announcement of the ceremonial schedule gave the new departure time, but somehow the arrival hour continued in the newspapers as midnight Tuesday. (As a result of the confusion, and innocently helping to compound it, the next day in Abilene the press center of the Fifth Army, in charge of arrangements in that city, issued a news release giving the scheduled arrival as 10 p.m. Tuesday.)

If the schedule of the funeral special was confusingly presented by the media on the basis of official information, both the schedule and facts about the train itself were grossly distorted as the result of information leaks and speculation.

Exactly this had been foreseen in the last few months of intensive planning for the train (started five years earlier) when railroad public relations officers had argued that privacy could best be protected by permitting a few pool representatives of the media to travel on the train. Just as an elephant cannot be hidden in a living room, it was illusory to expect the train's route and schedule to remain secret.

Later, when death came, Ike's trusted White House press secretary, Jim Hagerty, proved equally unsuccessful in presenting the media pool idea.

● **The veil is torn.** The foreseeable and feared arrived over the weekend. Some media respected the expressed desire for privacy. The New York Times, in possession of all the essential facts by Sunday, decided not to print them. Other editors decided that the train's route and times, officially released or not, were legitimate news, and set out to get and disclose them.

The first fruits of information de-

A SIMPLE BAGGAGE CAR WAS APPROVED BY IKE

privation began to appear even as the funeral train, under a full moon, began its 50-mile-an-hour pace across Virginia. At Alexandria, Manassas, Culpepper and Charlottesville, as everywhere else for the next two nights and a day, silent, motionless thousands lined the right-of-way, some with hands on hearts, some saluting, some holding signs aloft, "Ike, We Miss You," or "Mamie, We're With You." For Abraham Lincoln's funeral train candles were held in the night; for Dwight Eisenhower's the comparatively few persons who remained in automobiles blinked their dim lights.

Starting forty-five minutes late because of ceremonial delays, the funeral train quickly made up the lost time in bursts of speed through lightly populated areas of Virginia. Radio and television, however, soon were erroneously reporting the train as already running three to four hours late.

Even more disquieting evidence of secrecy gone sour came aboard the train in the early morning with the West Virginia newspapers. One of the newswire services, frustrated by the lack of information, had sent a reporter out to track down the car which would carry General Eisenhower's body.

● **What Ike wanted.** Having found the car, the reporter could not be expected to know that General Eisenhower, some time before his death, approving for himself an $81 grey steel coffin of the type used for any GI, had also directed that it be transported, as would a GI's coffin, in a railroad baggage car. The C&O/B&O had offered its finest equipment, including office car Chessie 29, which had carried President Eisenhower in 1956 to and from the Greenbrier, at White Sulphur Springs, W. Va., when he met there with the heads of state of Canada and Mexico.

Only a simple baggage car was desired, and so No. 314 had been taken out of service weeks before its hour of need and completely reconditioned and carefully painted. The news story on Monday morning, however, presented a different picture.

The best the railroads had to offer for Ike's last journey home, the story said, was a rust-scarred relic of a bygone era, picked at random in a railroad yard and freshly painted to hide its blotches of age.

● **Brother says thanks.** Aboard Office Car 15 at Tuesday's early breakfast, Edgar Eisenhower thoughtfully watched the ranks of mourners on Kentucky station platforms and on nearby slopes. He heard, too, about the reports of the train's alleged lateness, and the criticism of the baggage car.

Turning to his brother's long-time aide, he asked if there was any marking on the car where his brother lay so that the waiting people would know. There was no such marking, in keeping with the original plan to move unnoticed. Mr. Ed then said he would like to get off the train at Cincinnati at 9:55 a.m., and thank, through the media, the thousands who had waited along the route to say goodbye to his brother.

Alerting the media

C&O/B&O's public relations staff had restricted its activities in the earlier stages to referring all calls from the media to the military and planning to move fast if it became necessary. The departent head and second-in-command were on the train. Two staff members were keeping an around-the-clock vigil in the C&O/B&O transportation department in Baltimore, where progress of the train was constantly checked. Other staff members were spotted along the route, at Washington, Huntington, W. Va., Cincinnati and St. Louis; and at the Cleveland and Baltimore executive offices. N&W's public relations head rode the train between St. Louis and Kansas City.

By radiotelephone from the train to Cincinnati, the media were alerted. On the platform at Union Terminal, while the train itself was taken to the yards and put through the washer, Edgar Eisenhower faced an assemblage of TV and still cameras, radio recording machines and reporters' pads and pencils.

He expressed appreciation to those who had come to mourn his brother. He explained that the baggage car had, so his brother's aides told him, been personally approved by the General. He thanked the railroads for their on-time operation, the equipment, and the comfort of the ride.

● **Mrs. Eisenhower appears.** While Edgar Eisenhower spoke, flags and bunting were placed on the sides of the funeral car at the request of Mrs. Eisenhower. Now the waiting throngs would know where to focus their respect and would not wait extra hours for the train's arrival.

At St. Louis's Union Station that evening, Mrs. Eisenhower, her son, Ambassador-designate John Eisenhower, and grandson David Dwight Eisenhower, appeared on the platform of the office car Santa Fe at the rear of the train. They thanked the thousands who had come to say goodbye to President Eisenhower.

On the station platform, Edgar Eisenhower repeated for another assemblage of media representatives the points he had made at Cincinnati and also at Washington, Ind. Later, privately, Mrs. Eisenhower expressed her thanks to railroad representatives for the smooth trip.

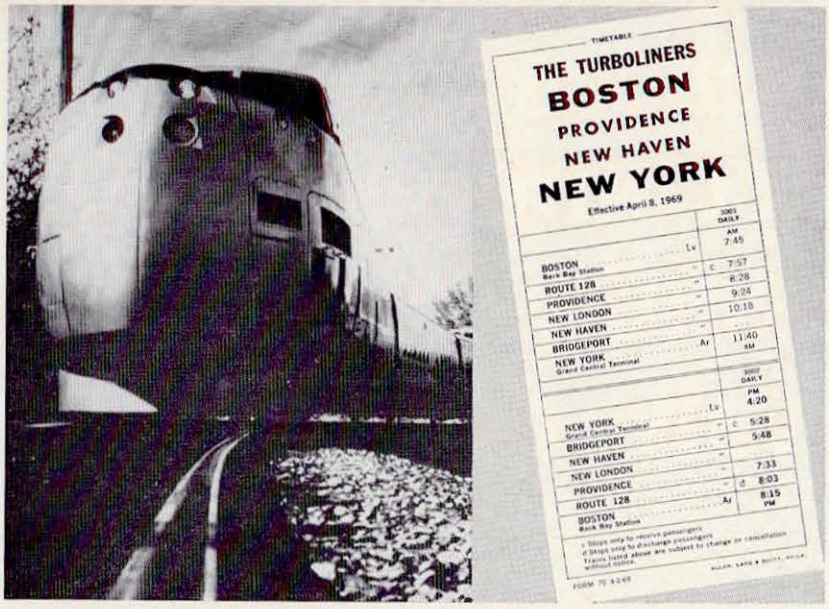
(Operational planning for the train was headed by C&O/B&O's E. T. Rucker, assistant vice president, on behalf of C. V. Cowan, operations head. N&W's J. N. Sailor, assistant vice president—operations, and UP's W. J. Fox, assistant vice president—operations, were responsible for planning the train's passage over their lines. Among the railroad men on the train were C&O/B&O's John Edwards and A. W. Johnston, regional general managers; T. H. Hackney, chief mechanical officer—cars; Howard Skidmore, vice president; C. R. Van Horn, assistant vice president at Washington; David Watts, director of passenger services; W. E. Pyne, director of public relations and advertising; William Howes, assistant passenger director; and Ken Cox, superintendent passenger food services. Also on the train was Robert Clark, Santa Fe vice president at Washington. In charge of planning the train for the Washington Military District was Sidney Cox, chief transportation officer.)

Tuesday evening, the newspapers and network news shows were reporting the train operating generally on time and Edgar Eisenhower's positive observations. Negative references to equipment or railroad operations faded from print and the air.

Arrival in Abilene's railroad yards the next morning was at the scheduled —and finally established with the news media—hour. At the station platform, in the bright sun, the silver, blue and yellow train, a few hours later, was the backdrop of a colorful and moving ceremony, rich in the panoply & military and Presidential tradition and marked by the presence of the President of the United States.

Television (and, later, the newspapers and magazines) showed a shining train, symbolic of a modern transportation industry, to the nation.

While the band played "God of Our Fathers," Ike Eisenhower, soldier, was lifted from a railroad baggage car and carried to his last place of rest under the wide Kansas sky. ■


TIMETABLE
THE TURBOLINERS
BOSTON
PROVIDENCE
NEW HAVEN
NEW YORK
Effective April 8, 1969
3001 DAILY
BOSTON Back Bay Station Lv AM 7:45
ROUTE 128 " c 7:57
PROVIDENCE " 8:28
NEW LONDON " 9:24
NEW HAVEN " 10:18
BRIDGEPORT Ar 11:40 AM
NEW YORK Grand Central Terminal
3002 DAILY
NEW YORK Grand Central Terminal Lv PM 4:20
BRIDGEPORT " c 5:28
NEW HAVEN " 5:48
NEW LONDON " 7:33
PROVIDENCE " d 8:03
ROUTE 128 " 8:15 PM
BOSTON Back Bay Station Ar
c Stops only to receive passengers
d Stops only to discharge passengers
Trains listed above are subject to change or cancellation without notice.
FORM 70 4-245

TURBOLINER DIARY

Tuesday, April 8, 1969

7:45½ A.M. Penn Central train No. 3001 is "airborne." The turbine powered train which United Aircraft built, and which one newsman aboard describes as a "train in plane clothes" is on its first revenue run over the New England Region of the PC.

7:53 A.M. Just a few minutes out of Back Bay station and we are already doing the 79 mph maximum to which the new train will be held during its shakedown runs. The 3 hr. 55 min. schedule is 15 min. faster than the present best schedule—the Merchants Limited—on the Back Bay-Grand Central run; it matches exactly the fast schedules introduced during the Dumaine administration 20 years ago. Turboliner schedule is "the cautious approach by practical railroad operating men," DOT Secretary John A. Volpe tells an inquiring reporter, "and will be cut down maybe 10 or 20 minutes within a month, and in six months by more than that." Target is 3 hr. 15 min.

7:55 A.M. In reply to one of many queries as to why train starts at Back Bay instead of South Street station in Boston, DOT Director of High Speed Ground Transportation Office, Bob Nelson, replies, "We didn't decide that, PC did. Anyway, it's not a crucial point to the experiment." PC man says three stops aren't needed in Boston (South Station, Back Bay and Route 128)—"airlines only have one 'station'."

8:00 A.M. Massachusetts Governor Sargent on loud speaker, says this service may prove to be more important to New England than most of us realize.

8:03 A.M. Stop at Route 128 Station, six minutes late. Delayed by local press (here as at other stations along the line) and by detraining Gov. Sargent (who quips that he has a ticket only to Route 128 and has to get off).

8:12 A.M. Brief spurt to 120 mph near Mansfield, Mass. (Show off!)

8:42 A.M. Depart Providence, 14 min. late. Train riding roughly over switches. Ride quality improves as speed increases. Improves measurably above 70. A second brief speed run, to 111 mph, produces a really superior ride over standard jointed rail.

9:05 A.M. George Casady, PC assistant vice president, passenger service, tells newspaperman: "Morale of our crews on these trains, the Metroliners and the Turboliners, is excellent, and the success of the trains," he adds, "will depend more on those people than on the ones who set the policies. It's how they answer the phones; the way they treat the passengers; whether they make them feel they are welcome aboard—wish you'd say that in your newspaper." (Maybe he won't, but we will, Mr. Casady.)

10:34 A.M. Leave New Haven, after six-minute station stop, 16 min. late. Large crowd of observers on platform prevents passengers from boarding promptly, including photographers who jump off for first exterior shots of train. (Too bad a unit-train first run can't get this kind of press!)

10:51 A.M. Through Bridgeport. Tracks, as at every other city, town and crossing on the 229-mi. route, lined with sightseers.

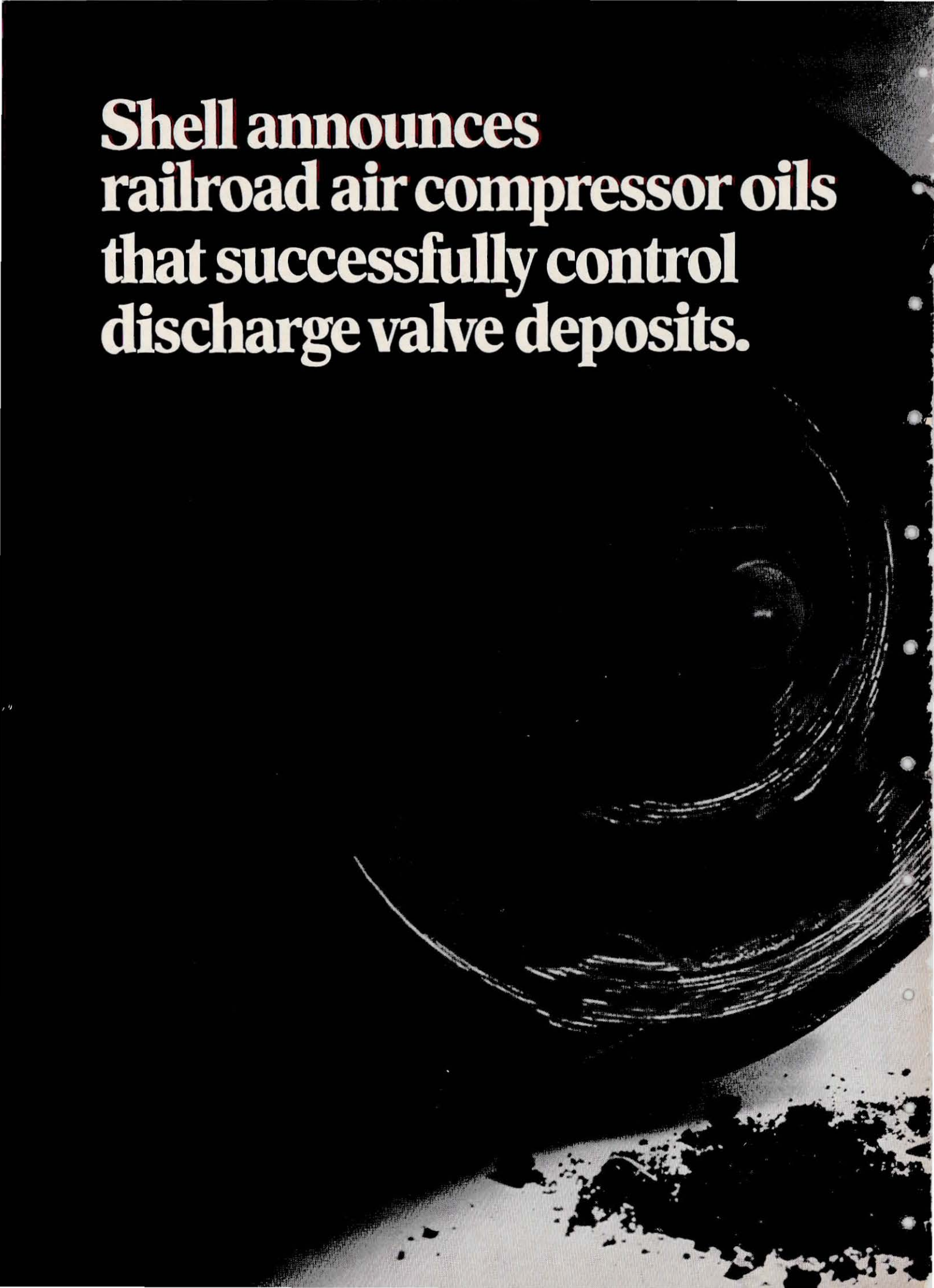
11:00 A.M. New Federal Railroad Administrator Reginald Whitman relaxing in front seat of forward dome. Says he thinks the train is "great—it's a busman's holiday for me—I like it."

11:30 A.M. Onto Harlem Division trackage at Woodlawn. Gas turbines shut off and train using traction motors. Power from third rail. Slight drop in noise level, but modest turbine whirr had become hardly noticeable anyway.

11:49 A.M. Stopped in Grand Central Station. Premiere is over, 9 min. after scheduled. Some gripes. Many compliments. Add mine!

ROBERT G. LEWIS

Shell announces railroad air compressor oils that successfully control discharge valve deposits.



Breakthrough: New Shell railroad air compressor oils minimize discharge valve deposits—in some cases, eliminate them.

These new oils work to keep the discharge valve dry. This minimizes wet oil and deposits passing into the braking system—all while providing high-temperature oxidation protection, excellent lubrication and low oil consumption.

Advantages: significantly lower maintenance costs, safer operation, increased equipment utilization.

Cause and cure. Discharge valve deposits are mostly oxidized oil. This is the main reason why conventional air compressor oils are blended for oxidation stability.

Then how come, Shell scientists asked, heavy deposits are often found in compressors using highly stable oils?

Answer: Oxidation stability, while needed to minimize lacquer and varnish formation, is not the only factor involved in discharge valve deposits. These deposits, Shell discovered, are related more to the time that the oil is in the hot zone of the compressor.

The troublemaker. Further research showed that *volatility* of the oil was the dominant factor. "Heavy end" oil fractions of low volatility were pinpointed as the primary source of discharge valve deposits.

Result: Each grade of Shell Railroad Air Compressor Oil is blended in a *narrow* volatility range. Each grade meets the volatility needs of the particular viscosity required.

Three viscosities available. Shell Railroad Air Compressor Oil 27, SAE 10W grade, is designed for all deep-sump Gardner-Denver air compressors. We recommend it where an SAE 10 oil is required under warranty.

Shell Railroad Air Compressor Oil 33, SAE 20 grade, is designed for Westinghouse water-cooled air compressors. We recommend it where an SAE 20 oil with 0° F pour point is required under warranty.

Shell Railroad Air Compressor Oil 41 is an SAE 30 oil, 0° F pour point, for use in all makes of air-cooled compressors and small-sump, water-cooled conversion compressors. We recommend it where warranties do not specify other grades, in the interest of simplified inventory.

Call one of these offices. For details, call the nearest Shell Railroad Representative: New York (212) 586-6000; Chicago (312) 341-3275; San Francisco (415) 392-5400. Or write: Shell Oil Company, Department RN/U, P. O. Box 1890, Trenton, New Jersey 08607.

MEMBER RPI RAILWAY PROGRESS INSTITUTE

SHELL

BURRO POWERS THE WAY to Extra Earnings

Model 40 BURRO, equipped with automatic folding leads, shown driving piles with a diesel pile hammer.

RUGGED!

VERSATILE!

Burro Cranes and equipment get the job done fast and efficiently, on the line, in the yards or Stores Department. Pile driving, ditching, laying welded rail, or lifting track panels are but a few of the many jobs handled quickly and economically by the BURRO.

BURRO Rail Threader handling continuous welded rail.

Model 40 BURRO Ditcher supplies its own locomotive travel and work power. Loads dump cars, furnishes necessary air for dumping.

Write for complete information and BURRO Crane Bulletin No. 168

WC

WESTERN-CULLEN DIVISION
Federal Sign & Signal Corporation
2702 W. 36th PLACE • CHICAGO, ILL. 60632
CANADA: WOODINGS CANADA, LTD., 5 Place Ville Marie, Montreal 2, Que.

Circle 7 on coupon page 29

Frank Malone

WATCHING WASHINGTON

THE STORM ON CAPITOL HILL, it seems, will be as loud as the calm was quiet—if you've got a good man to lead your rain dance. Unfortunately, no one on the Hill appears interested in pounding any drums for the railroads. If there is a Congressman so inclined, nobody has reported they've heard him practicing.

WHEN YOU LOOK AT THE CHOICE, you get an idea why politicians balk at identifying with the industry. It's just not a popular thing to do. Constituents are attracted by winged glamour and rubber-tired hustle. They take the importance of planes and trucks for granted. The value, however, of the sleepy rail giant is at best doubtful to the man on the street, if he thinks about it at all. And it does little good to say the giant is waking up, losing weight, learning computers and hauling more things faster—if the medium for that message is a boomerang.

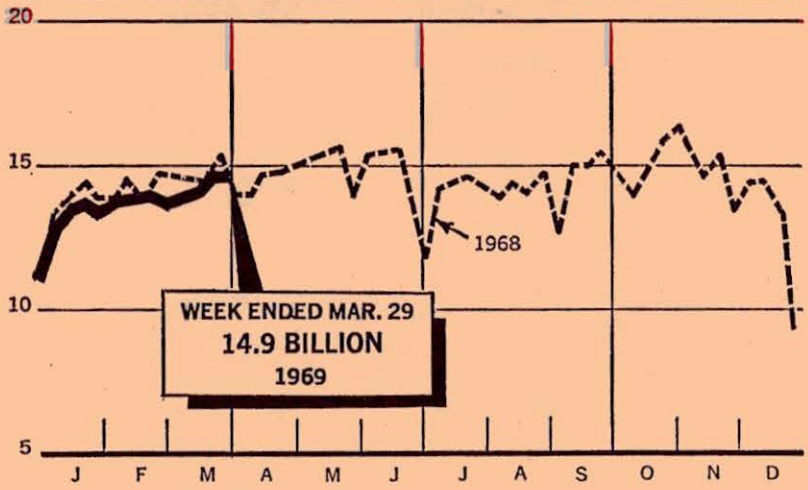
WHEN YOU CHECK THE SKILLS needed by a rail protagonist, you see that only a zealot would survive. He would first have to defend a Gargantua who causes evacuation of entire communities with one stumble, stalls a hundred autos with one move, alienates a line of ticket buyers with one word, and observes the growth of its competitors with one long nap.

MORE IMPORTANT, the zealot would have to make his associates see that the giant also has virtues that are badly needed for a healthy economy. It would take much rhetoric to show that the rail giant really is a giant with incredible strength, complete boldness toward hard work, and full self-reliance for maintenance and improvement. In addition, the industry's frustration over unfair taxation and regulation, and its willingness to live up to expectations, would have to be communicated. In other words, a zealot is needed to prove that trains can be glamorous and hustling, too.

IT IS SIGNIFICANT that the only transport action before Easter was hearings to protect airlines from takeover by unrelated managers. This followed White House influence, another requirement for a rail crusader. Many rail bills backed by legislators were introduced, but they covered duties toward safety, passengers and labor. While important from one viewpoint, this isn't quite the drum beating needed.

RAIL FREIGHT TRAFFIC TRENDS

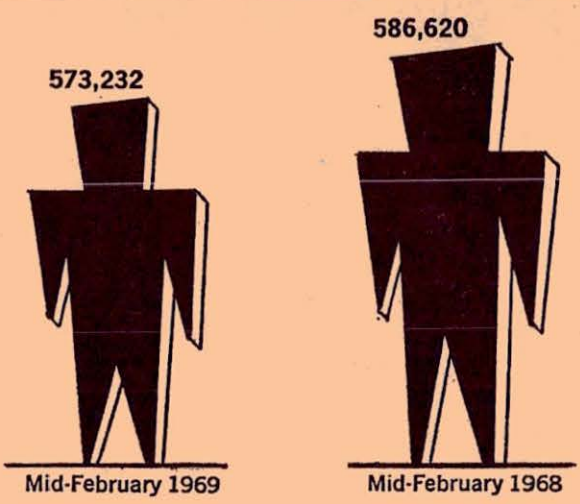
BILLION TON-MILES (Estimated)



Source: Association of American Railroads

RAILROAD EMPLOYMENT

(CLASS I LINE-HAUL RAILROADS)



Source: Bureau of Accounts, ICC.

Current Statistics

Net income, Class I roads	
Twelve months, 1968	$593,000,000
Twelve months, 1967	$551,000,000
New freight cars on order	
March 1, 1969	33,434
March 1, 1968	24,375
New freight cars delivered	
2 mos., 1969	9,687
2 mos, 1968	10,471
Serviceable cars	
Feb. 1, 1969	1,379,938
Feb. 1, 1968	1,401,643

NEW ORDERS FOR MACHINE TOOLS*

	February 1969 ($000)	February 1968 ($000)	2 mos. 1969 ($000)	2 mos. 1968 ($000)
Metal cutting tools	93,700	85,800	184,900	161,300
Metal forming tools	45,700	23,750	82,000	45,600

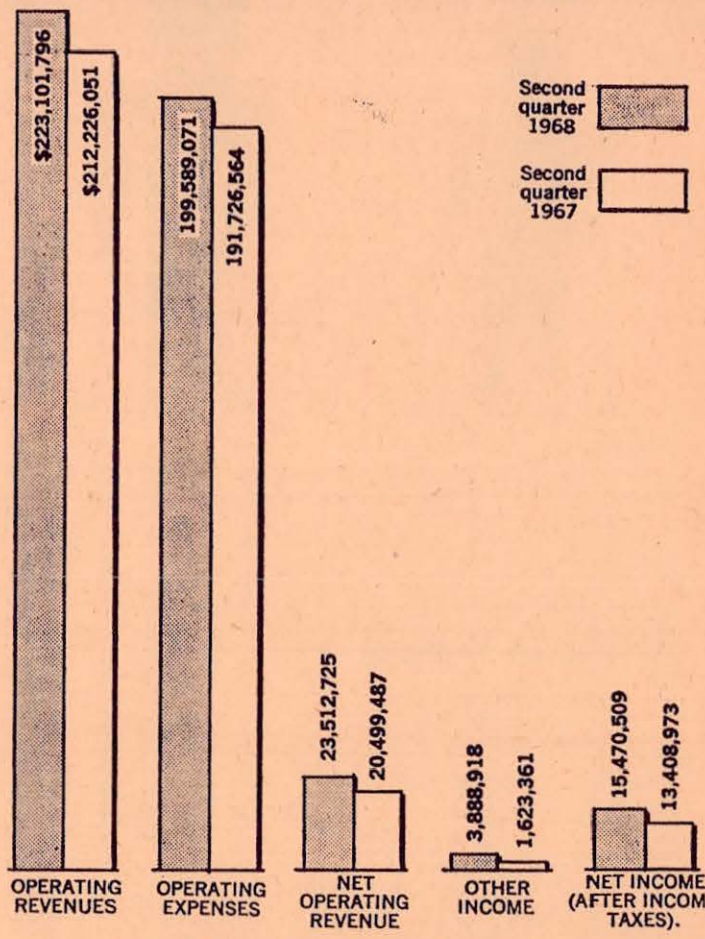
MACHINE TOOL SHIPMENTS*

	February 1969 ($000)	February 1968 ($000)	2 mos. 1969 ($000)	2 mos. 1968 ($000)
Metal cutting tools	98,250	114,900	184,700	217,750
Metal forming tools	32,800	29,300	61,100	60,800

*Including foreign and domestic.
Source: National Machine Tool Builders' Association.

CLASS I MOTOR CARRIERS OF PASSENGERS

Selected statistics



Source: Bureau of Accounts, ICC. Figures are for intercity and local or suburban operations. Class I motor carriers are those having annual gross operating revenues of $200,000 or more.

MARKET OUTLOOK

CARLOADINGS

Loadings of revenue freight in the week ended April 5 totaled 534,263 cars, the Association of American Railroads announced on April 11. This was a decrease of 15,572 cars, or 2.8%, compared with the previous week; an increase of 4,507 cars, or 0.09%, compared with the corresponding week last year; and a decrease of 9,498 cars, or 4.3%, compared with the equivalent 1967 week. Ton-miles generated by carloadings in the week ended April 5 are estimated at 14.4 billion, an increase of 4.2% above the corresponding week of 1968, and 2.1% above the 1967 week.

REVENUE FREIGHT CARLOADINGS

Commodity	Mar. 29 week	Preceding week	Per cent change
Grain	20,073	20,901	— 4.0
Farm products	13,658	14,011	— 2.5
Metallic ores	21,499	20,602	+ 4.4
Coal	106,441	108,016	— 1.5
Crushed stone, gravel & sand	26,060	25,678	+ 1.5
Nonmetallic minerals	10,749	10,628	+ 1.1
Grain mill products	20,952	20,789	+ 0.8
Food & kindred products	24,965	24,956	+ 0.04
Primary forest products	27,099	25,504	+ 6.3
Lumber & wood products (except furniture)	17,020	16,524	+ 3.0
Pulp, paper & allied products	26,056	25,372	+ 2.7
Chemicals & allied products	35,716	35,159	+ 1.6
Petroleum products	11,666	12,295	— 5.1
Stone, clay & glass products	21,370	22,517	— 5.1
Coke	8,047	8,493	— 5.3
Metals & products	32,150	30,879	+ 4.1
Motor vehicles & equipment	26,151	25,342	+ 3.2
Waste & scrap materials	15,541	15,527	+ 0.1
Forwarder & shipper assn. traffic	7,639	8,032	— 4.9
All other carloads	74,995	73,820	+ 1.6
LCL traffic	1,988	2,005	— 0.8
Total cars loaded	549,835	547,050	+ 0.5

CUMULATIVE TOTAL 13 WEEKS	1969	1968	1967
	6,616,231	6,651,012	6,763,359

PIGGYBACK CARLOADINGS

U. S. piggyback loadings for the week ended March 29 totaled 27,360 cars, carrying 45,003 trailers, compared with 26,154 cars, carrying 42,508 trailers, in the corresponding 1968 week. Loadings for 1969 up to March 29 totaled 328,695 cars, carrying 538,952 trailers, compared with 315,499 cars, carrying 515,915 trailers, in the corresponding period of 1968.

IN CANADA

Cumulative	Revenue Cars Loaded	Total Cars Rec'd from Connections
March 14, 1969	725,050	252,085
March 14, 1968	701,085	248,981

FREIGHT-TRAIN CARS

● *Fruit Growers Express.*—Announced a 1969 program calling for construction of 1,122 new cars, compared with 1,069 in 1968. Included will be 847 insulated bunkerless cars and 275 mechanically refrigerated cars. All will have cushion underframes, load dividers, and foamed-in-place polyurethane insulation.

● *Great Northern.*—Ordered 500 50-ft, 8-in., 77-ton box cars from Berwick Forge for delivery beginning next September. The cars will be equipped with 10-ft plug doors, cushioned underframes and interior damage-prevention devices.

● *Illinois Central.*—Ordered 100 4,740-cu-ft-capacity covered hopper cars from Pullman-Standard at a cost of $1.5 million. Delivery is scheduled for May.

● *Norfolk & Western.*—Announced plans to buy 124 special box cars at a cost of more than $4.3 million. The 86-ft, 100-ton cars will carry raw materials for the automobile industry.

● *Penn Central.*—Ordered 515 box cars costing over $13 million. Thrall will build 270 86-ft "jumbo" cars for delivery beginning in July. PC's Samuel Rea shop, Hollidaysburg, Pa., will build 245 60-ft cars for delivery starting in June. The cars, all of which are to haul auto parts from manufacturing centers to assembly plants, will have cushioned underframes. The road also is building, at its Altoona, Pa., works, 50 cabooses costing $1.2 million. Completion is scheduled for mid-April.

CAR OWNERSHIP

● *Serviceable cars.*—Revenue freight cars in serviceable condition owned by Class I railroads on Feb. 1, totaled 1,379,938, compared with 1,401,643 on Feb. 1, 1968, according to most recent AAR Car Service Division report. Estimated total ownership of all railroad- and privately-owned freight cars on Feb. 1 (see table below), was 1,795,842 (average capacity: 64.50 tons), compared with 1,817,555 (average capacity: 63.33 tons), on Feb. 1, 1968.

ESTIMATED OWNERSHIP—ALL REVENUE FREIGHT CARS

(Feb. 1, 1969 vs. Feb. 1, 1968)

		Box	Covered Hopper	Gondola	Hopper	Flat	Refrig.	All Others	Total
Class I	1969	550,144	122,494	198,433	407,191	68,744	52,878	56,090	1,455,974
	1968	565,117	119,386	199,317	418,547	67,313	51,522	58,369	1,479,571
RRO&C Refrig.*	1969	0	0	0	0	0	46,948	0	46,948
	1968	0	0	0	0	0	51,205	0	51,205
Private	1969	1,196	29,316	771	3,479	43,802	16,912	173,400	268,876
	1968	1,469	28,100	292	2,828	40,936	14,459	172,129	260,213
Class II & S&T†	1969	8,067	769	4,863	7,934	570	808	1,033	24,044
	1968	9,298	893	5,277	8,668	649	687	1,094	26,566
GRAND TOTAL	1969	559,407	152,579	204,067	418,604	113,116	117,546	230,523	1,795,842
	1968	575,884	148,379	204,886	430,043	108,898	117,873	231,592	1,817,555

* Railroad owned and controlled refrigerator car lines.
† Class II railroads and switching and terminal companies.

YOU OUGHT TO KNOW

ICC sets raise of car charges to trim shortage

Increased demurrage charges set by the Interstate Commerce Commission were scheduled to take effect on April 15, in an effort to alleviate "acute shortages of freight cars throughout the country." Under the new ICC rules, set for expiration on July 1, two free-time days and the $5-charge for the next four days will be continued. After that, the charges go to $25 for the next four days and $50 for each subsequent day (instead of the present $10 and $15 rate, respectively). The ICC says "an emergency exists requiring immediate action to promote car service in the interest of the public and the commerce of the people." Exempted are refrigerator, stock, tank and other cars that are usually exempt from such orders.

L&N makes offer to purchase C&EI debentures

Louisville & Nashville is offering to buy all outstanding Chicago & Eastern Illinois 5% Income Debentures due Jan. 1, 2054, at a price of 80% of principal amount. The offer, open until May 5, is being made in connection with L&N's agreement to purchase certain C&EI properties which would give L&N single-line entry into Chicago via the Evansville, Ind., gateway. The agreement permits L&N to deliver to C&EI, among other things, $18 million principal amount of debentures and C&EI first mortgage bonds, Series B, but allows L&N the option of paying any or all of that amount in cash. L&N President W. H. Kendall said his road will not buy debentures at a higher price than that stated, after termination of the offer: "This is our best offer, and we won't increase it." As of March 21, $12.3 million principal amount of the debentures was outstanding, with L&N then owning $8 million principal amount of that total.

EDP ticketing system planned by German Federal

The German Federal Railway has awarded contracts for construction of an electronic space reservation complex, to be completed by 1971. One of the most sophisticated and comprehensive installations of its kind in Europe, the system will consist of two separate electronic data processing units, an extensive communications network, and 300 terminals. Reservations made via computer will include sleepers, couchettes, car-sleeper-express service and car ferries, as well as straight seat reservations. In some cases, reservations will be available as much as three months in advance.

Penn Central to halt Pemberton passenger runs

Penn Central will discontinue passenger service on its Pemberton (N.J.) line as of April 25. The loss from operating the line, which carried an average of 28 passengers a day last year, is estimated at $93,391 in 1968. The State Commuter Operating Agency, which approved the move, said that comparable bus service is available to most of the affected passengers. The agency also noted that the right of way will now be available for future transportation improvements and that the Delaware River Port Authority might operate a rapid transit service along the line.

ICC extends cost-evidence filing date

The Interstate Commerce Commission has extended to Sept. 15 the date for filing statements in the cost-evidence case, Rules to Govern the Assembly and Presenting of Cost Evidence, Docket 34013. Rail, water and motor carriers all asked for the extension. The proceedings are aimed at determining how particular costs should be recognized in cost comparisons between modes—to protect and preserve inherent cost advantages of particular modes. Rails say out of pocket as well as fully distributed costs must be considered.

For the record

Only 2% to 3% of total fatalities on U.S. highways are attributable to rail-highway grade-crossing accidents. Because of typographical errors on page 8 of the April 7 Railway Age, those percentages were erroneously inflated to 20% and 30%.

Robert R. Firestone
B&LE

M. Spalding Toon
Carbon County

Richard D. Lalanne
LV

William R. Jones
Milwaukee

Markus W. Zanow
RI

Kenneth A. Leger
UP

PEOPLE IN THE NEWS

BESSEMER & LAKE ERIE.—Robert R. Firestone appointed manager public relations, Pittsburgh, Pa. He was formerly executive assistant to the president, **Pittsburgh & Lake Erie.**

CARBON COUNTY—M. Spalding Toon elected president of this road which hauls coal from the United States Steel Corp. mine at Columbia, Utah, to Columbia Junction near Dragerton. He succeeds the late **C. C. Parsons,** Salt Lake City, Utah. Mr. Toon is president, Ohio Barge Line, Pittsburgh, Pa., and Warrior & Gulf Navigation Co., Mobile, Ala. He has been a director of Carbon County since 1965.

LEHIGH VALLEY.—Robert E. Kappauf, assistant vice president, Penn Central, named vice president—assistant to president, LV, Bethlehem, Pa., a new position. **George N. Sabin,** assistant vice president—freight rates, New Haven, named assistant vice president—rates, LV., New York. **Richard D. Lalanne,** acting general counsel since the death of **Jose R. de Capriles,** promoted to general counsel.

MILWAUKEE.—William R. Jones, superintendent of the sleeping and dining car department, appointed superintendent of sleeping, dining, mail, baggage and express services, Chicago.

ROCK ISLAND.—Markus W. Zanow, manager of planning, advanced to director of data systems. **H. Robert Ingemansen,** manager of systems development-revenue accounting, and **Thomas M. Walsh,** manager of systems development-car service, promoted to assistant directors of data systems. **William E. Schott,** manager of systems development-transportation, becomes manager of advanced systems planning.

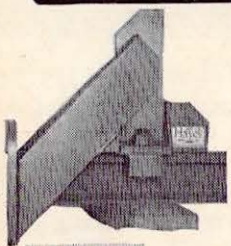
UNION PACIFIC.—Kenneth A. Leger, assistant superintendent transportation, appointed superintendent of transportation-schedule control, to head Schedule Control, a new management section (RA, March 31, p. 7). Named assistant superintendents in the section are **Grady H. Boone, Stanley E. Exster** and **Roy C. Murphy.**

Are you stopping cars by "center-pin shear"?

• You are unless the Wheel Stops you use are

Wheels hitting a rigid Stop started this center-pin on its way to destruction

Hayes CUSHION® Wheel Stops



Type SF (two identical blocks like one at left) cushions the impact by controlled friction. At slow approach, wheels ease Stop blocks gently against tie in cushioning ballast. At higher speeds, wheels force blocks down on rail, adding friction braking to cushion.

All-steel construction—universal fit—no holes to drill—tighten four nuts for installation.

Free leatherette ring-binder catalog of world's most-specified derails, bumping posts and wheel stops (including periodic supplement sheets). Write on letterhead.

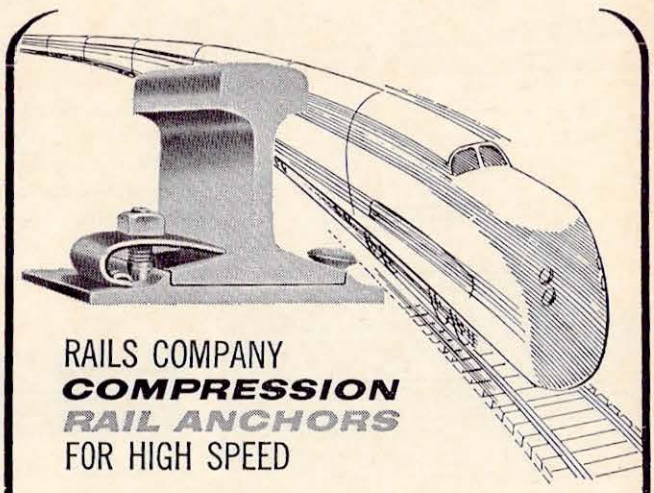
© 1968 H.T.A. Co.

Track safety devices that WORK at the job.

Hayes Track Appliance Co.

RICHMOND, INDIANA 47374

Circle 8 on coupon page 29



RAILS COMPANY
COMPRESSION
RAIL ANCHORS
FOR HIGH SPEED

- Dependable, two way uniform holding proven in service!
- Anchor in both directions with one Compression Rail Anchor
- Costs less per mile
- Tops for welded rail, turnouts, bridges and crossings — fits all rail sections
- New! — Flexiclip® for concrete ties

Write or call today for descriptive literature

THE RAILS CO.

Maplewood, N. J. 07040 • St. Louis, Mo. 63101
Chicago, Ill. 60604 • San Francisco, Calif. 94105
In Canada: IEC-Holden Ltd.

Circle 9 on coupon page 29

NEW PRODUCTS REPORT

Hy-Rail equipment (RA-1)

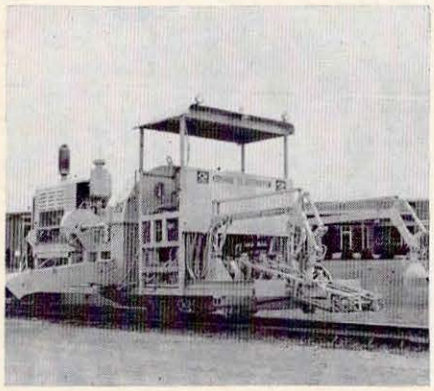
Heavy-duty Hy-Rail attachments, designated Series 4072, have now been developed for crane carriers and certain large trucks. This Hy-Rail equipment allows the crane to travel on the rails as well as over the ground. An application also has been made to the rear end of the trailer of a tractor-trailer unit. Each Hy-Rail assembly, either front or rear, has a maximum load capacity of 34,000 lb. *Fairmont Railway Motors, Inc.*

Switch undercutter (RA-2)

A new unit called the Switch Skeletonizer has been developed to skeletonize turnouts without disturbing the tracks. It also can be used to "spot" undercut or skeletonize short stretches of cemented track. It is designed to remove the material contained between the switch ties to a depth of approximately 5 inches below ties at the rate of from 200 to 400 feet per hour. Its cutter bar has an effective length of about 9 feet. *Kershaw Mfg. Co.*

Wheel loader (RA-3)

A new wheel loader, designated Model 920, has been made available with 1.5-cu yd general-purpose, multi-purpose and side-dump buckets. It is the smallest in the completely articulated Caterpillar wheel-loader line. It is said to be ruggedly built and its 80-flywheel horsepower gives the speed of larger wheel loaders. Model 920 is given stability with a 100-inch wheelbase while its 35-deg articulation allows a short turning radius. *Caterpillar Tractor Co.*



Tie destroyer (RA-4)

A new machine has been developed to fulfill a need created by more stringent regulations concerning the burning of ties, discarding them down embankments or leaving them in place to decay. Designated the Tie Destroyer, the unit has semi-automatic cranes to load the tie pieces onto a chipper-feed conveyor. The conveyor carries the tie pieces underneath the operator to the chipper, which consists of two counter-rotating wheels. The machine is designed to handle cut ties only, the pieces being fed into the blades in a sideways position with the spike holes vertical. The front wheel cuts the tie with the grain and the rear wheel breaks up the slabs into smaller pieces. The spike holes are vertical so that dead heads will be knocked out at one time rather than being cut off, bit by bit. Chips can be blown to either or both sides of the track. Chutes, preventing a trackman from walking in front of the discharge, are provided. The machine is designed to dispose of up to 18 pieces of ties per minute. *Kershaw Manufacturing Co.*

RAILWAY AGE
THE TRANSPORTATION WEEKLY

30 Church Street, N.Y., N.Y. 10007 READERS' SERVICE (Att. J. Lindstrom)

PLEASE SEND ADDITIONAL INFORMATION ABOUT PRODUCTS IN ADVERTISEMENTS NUMBERED: 1 2 3 4 5 6 7 8 9 10

PLEASE SEND INFORMATION ABOUT PRODUCTS DESCRIBED ON PAGE 36 MARKED: RA-1 RA-2 RA-3 RA-4

NAME ..... **TITLE** .....

ADDRESS .....

COMPANY .....

CITY ..... **STATE** ..... **ZIP** .....

• **Inquiries can be processed only if title and company are shown.** 4/14/69

Advertisers' Index

Bethlehem Steel Corporation	3
C F & I Steel Corporation	19
Griffin Wheel Company, Div. of Amsted Industries	9
Hayes Track Appliance Company	35
Kerite Company, The	IBC
3M Company	10
National Electric Coil Co., The	BC
New Departure/Hyatt Bearings	20-21
Rails Company, The	35
Shell Oil Company	28-29
Tamper, Inc.	IFC
WABCO-Signal & Communications Division	22
Western-Cullen Division	30

ENGINEER

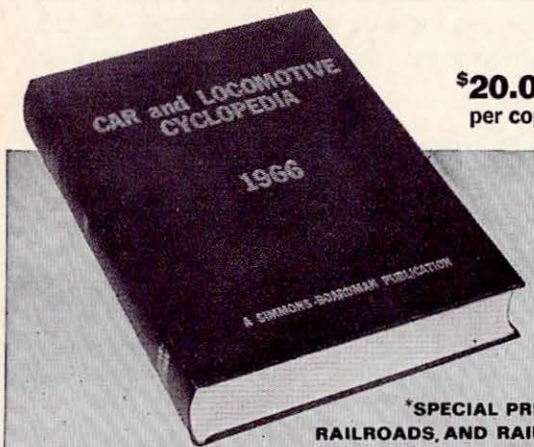
Leading manufacturer seeking engineer for research and development work. Knowledge of freight cars and pneumatic devices helpful. Chicago Metropolitan Area.
Railway Age, Box 247, 14 East Jackson Blvd., Chicago, Ill. 60604

GIVE TO THE COLLEGE OF YOUR CHOICE

For the first time... it's a reference book for

BOTH CARS AND LOCOMOTIVES

1,200 pages of detailed information, drawings and dimensions, includes all pages that would have appeared in the 22nd Edition, Car Builders' Cyclopedia PLUS 250 pages covering specifications and details of locomotives.



$20.00 per copy*

*SPECIAL PRICE TO RAILROADS AND RAILROAD MEN ONLY—$12.00 per copy.

ORDER FROM CYCLOPEDIA DEPT., SIMMONS-BOARDMAN PUBLISHING CORPORATION, 30 CHURCH ST., NEW YORK, N.Y. 10007

SEALANTS

Wanted: Sales service man with Sealants background familiar with railroads and railroad applications. Chicago base. Travel necessary.
Railway Age Box 245, 14 East Jackson Blvd., Chicago, Ill. 60604

SALES ENGINEER

Knowledge of air brakes and ability to layout freight car brake applications. Some travel. Chicago office will assist in relocation.
Railway Age, Box 246, 14 East Jackson Blvd., Chicago, Ill. 60604

75-TON STEAM RAILROAD WRECKER SNOW PLOW, STEAM
PRICED TO SELL

Dulien Steel, Inc. MA 4-5500
P. O. Box 3566, Seattle Wn. 98124

ELECTRONIC ENGINEER

Familiar with electrical power systems.
SPERRY RAIL SERVICE DIVISION
Shelter Rock Road
Danbury, Conn. 06810
(203) 748-3581

LOCOMOTIVES FOR SALE OR LEASE

1—44-T G.E. Switcher
1—45-T G.E. Switcher
1—70-T G.E. Switcher
2— 660 H.P. Alco Switchers
2—1000 H.P. Alco Switchers
2—1000 H.P. F-M Switchers
3—2000 H.P. F-M-Switchers
6—2400 H.P. F-M Trainmaster
1—40-T Industrial Brownhoist crane, 60 ft. boom.

Parts for all Locomotives.

Striegel Supply & Equipment Corp.
6001 Chemical Road
Baltimore, Md. 21226

IF YOU ARE MOVING . . .

ATTACH ADDRESS LABEL HERE

We need 5 weeks notice before change of address becomes effective. Attach mailing label here (but in any case give us complete old address) and write new address below. Mail to:

RAILWAY AGE
P.O. Box 961 **Bristol, Conn. 06010**

Name .....
Address .....
City, State, ZIP .....

Advertising Sales Department

C. J. Fisher, vice president—sales, Chicago

New York, N. Y. 10007,
30 Church St., (212) 964-3060
W. A. Cubbage—regional sales manager
Charles E. Keil—district manager

Chicago, Ill. 60604,
14 E. Jackson Blvd.
(312) 427-3501
K. F. Sheeran—regional vice president;
John M. Brennan—regional sales manager
Wm. J. Lyneis
Ross Mandic
—district managers

Lakewood, Ohio 44107,
12700 Lake Ave., Apt. 1310
(216) 226-8038
Harry H. Melville—vice president

Pittsburgh, Pa. 15219, Room 720,
(412) 471-7871
Frick Building
Ronald M. Giallonardo—regional sales manager

Dallas, Tex. 75206
Noel Page Building
6400 N. Central Expressway
(214) 361-6972
Joseph Sanders

Los Angeles, Cal. 90017,
1313 West Eighth St.
(213) 483-8414
Fred Klaner, Jr.

San Francisco, Cal. 94133,
515 Pacific Ave.
(415) 421-7004
Lewis A. Vogler & Co.

London S. W. 1, England
01-839 6318
67/68 Jermyn St., St. James's
Max F. Holsinger, Peter Clifton, Alan Berg

Manchester 22, England
Haletop
Wythenshawe Civic Center
Ian Goulden

Paris, 8e, France
70 Rue de Ponthieu
Stephen Brown-Joussard

4 Düsseldorf-Rath
Eitelstrasse 32
Max F. Holsinger, E. Hillerbrand, Herbert Haibt, Reinhard Schomburg

Tokyo, Japan
Sun Gain Shia, Ltd.
Shiba Nikkatsu Bldg.
13, Shiba Park
Minato-Ku
C. H. Yiu, Managing Director

VIEWPOINT

The basic role of transmitting ideas

Ask a typical manager what he needs most in order to do a creditable managing job—and, after pondering a moment, he's likely to reply: "Measurement, communication."

Measurement, thankfully, isn't the problem it once was. With third-generation computers and apt programming, there's very little a man should measure that he can't measure.

Measurement by itself, however, isn't of much use. That's where communication comes in—and that's where the picture begins to get more than a bit cloudy.

"Communication" is talked about so much that the word itself has become a cliche. Communications hardware has a glamor all its own. Money for R&D is always available, if the R&D shows promise of producing something which will ease the paths of communication. There are consultants in communications, and they don't starve. Lecturers and authors on "How to communicate" are in demand.

And yet, communication remains the weakest link in almost any management structure, and on the simplest level—person-to-person communication.

Railroads are not alone in their suffering. But in any far-flung enterprise—and railroads are that—small communications gaps are painful, and large ones become completely intolerable.

For a railroad—too often—the price of communications failure is lost business, lost revenue, lost net.

From the customer's standpoint—and this came through clearly at a recent communications roundtable involving several major rail shippers—there's a two-fold problem. First, the customer seems to be finding it difficult to get his wants and needs across to the carrier. Second, the customer seems doubtful of top railroad management's ability to translate its goals to the lower levels of management and supervision, down to the point where the job is done.

Sitting around the table, shippers and carrier people—along with a sprinkling of "communicators"—swapped stories illustrative of their point: In sum, the anecdotes were more like horror stories. They made up a chilling series of incidents in which buyer and seller of transportation were simply unable to make minds meet.

At the same time, nobody lacked for similar tales of internal communication and its problems. In a way the tone was even gloomier—because here the conversation was about glaring failures in understanding within a single organization, not between two separate organizations.

TWO OBSTACLES TO UNDERSTANDING

One of the pros in the communications business pinpoints two essential weaknesses in the understanding process—whether it be between buyer and seller or between boss and subordinate. First, there is often an assumption that the two parties in communication share common motives. This isn't always true. Second, too few "communicators" even take the time to "walk around" their message to see how it looks from the receiver's side.

And why should there be such concern with communication, at this particular time, in the railroad business? Because railroads must grapple with change—perhaps as never before. In time of change, good communication is most difficult—and most essential.

Our only quota is quality.

The most important dimension of cable is the fourth one.

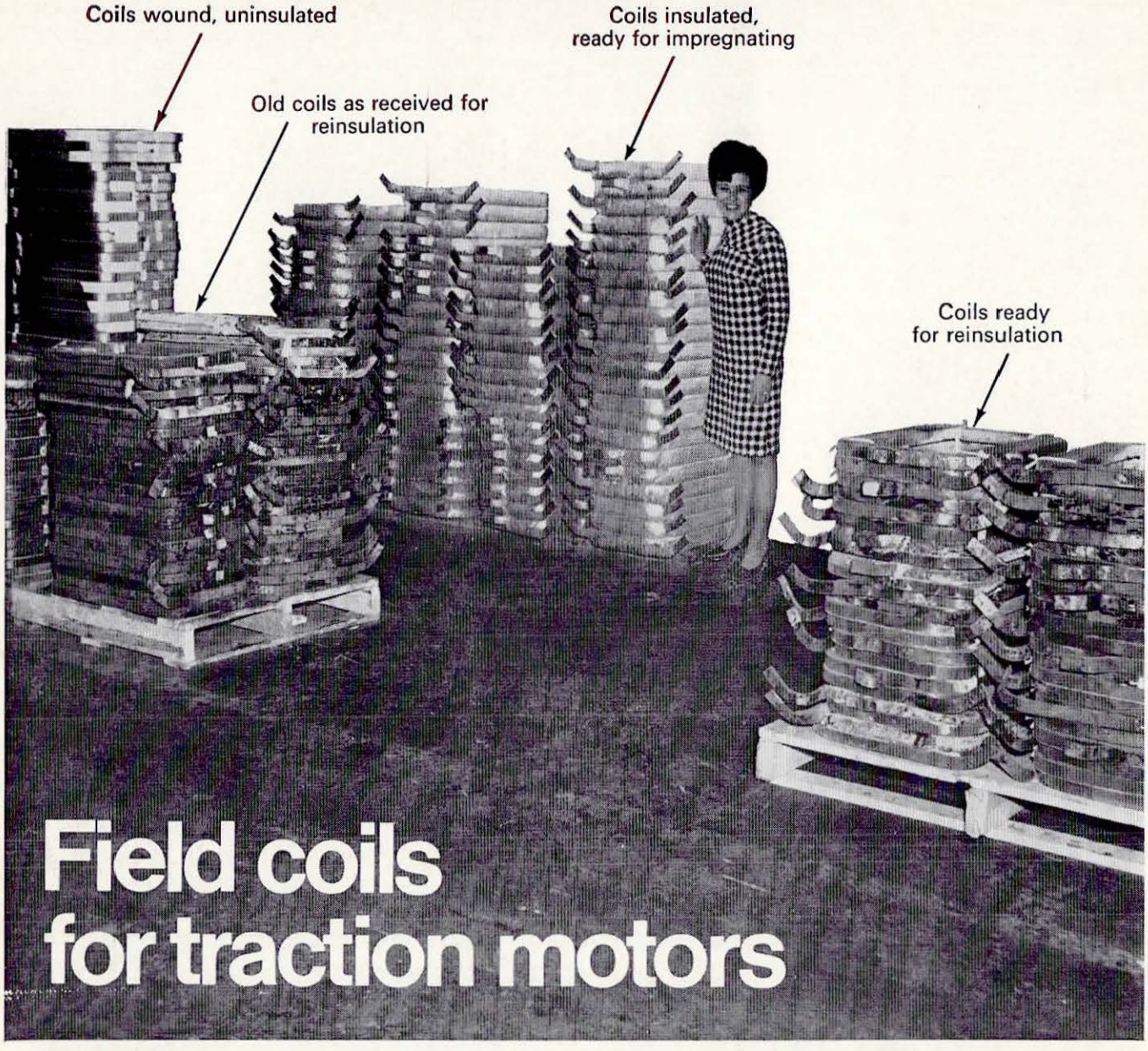
The critical fourth dimension of a cable is the time that it will last. A cable can pass many laboratory tests, but if it is not made to the highest quality standards of design, materials, and workmanship, it may still not prove out in the long run. More than any other cable made today, Kerite has proved itself in the field—for almost a century. Kerite—your best guarantee of a long-term trouble-free installation.

The Kerite Company · Principal Offices: New York, Chicago, Seymour, Connecticut · Sales Representation Throughout the United States.

MEMBER RPI

Kerite

the cable that lasts... and lasts... and lasts...


Coils wound, uninsulated
Old coils as received for reinsulation
Coils insulated, ready for impregnating
Coils ready for reinsulation
Field coils for traction motors

National serves you 3 ways

Take your choice . . .

- National makes and stocks new field coils for your traction motor needs.
- National rewinds and reinsulates your old field coils. Promptly. With newest methods and materials.
- National offers complete field coil kits for your repairing of all makes of motors and generators.

National coils are wound from bright annealed copper, taped with mica and glass insulation. Vacuum pressure-impregnated in epoxy resin formulation. Heat cured under high pressure in dies to exact dimensions. Ground-tested at 4500V. Advantages: dimensionally stable, moisture-resistant, rugged, withstand high temperature, close tolerances, accurately-positioned leads.

Further information on request.

National Electric Coil

DIVISION OF McGRAW EDISON

COLUMBUS, OHIO 43216 • IN CANADA: ST. JOHNS, QUEBEC

Circle 2 on coupon page 36